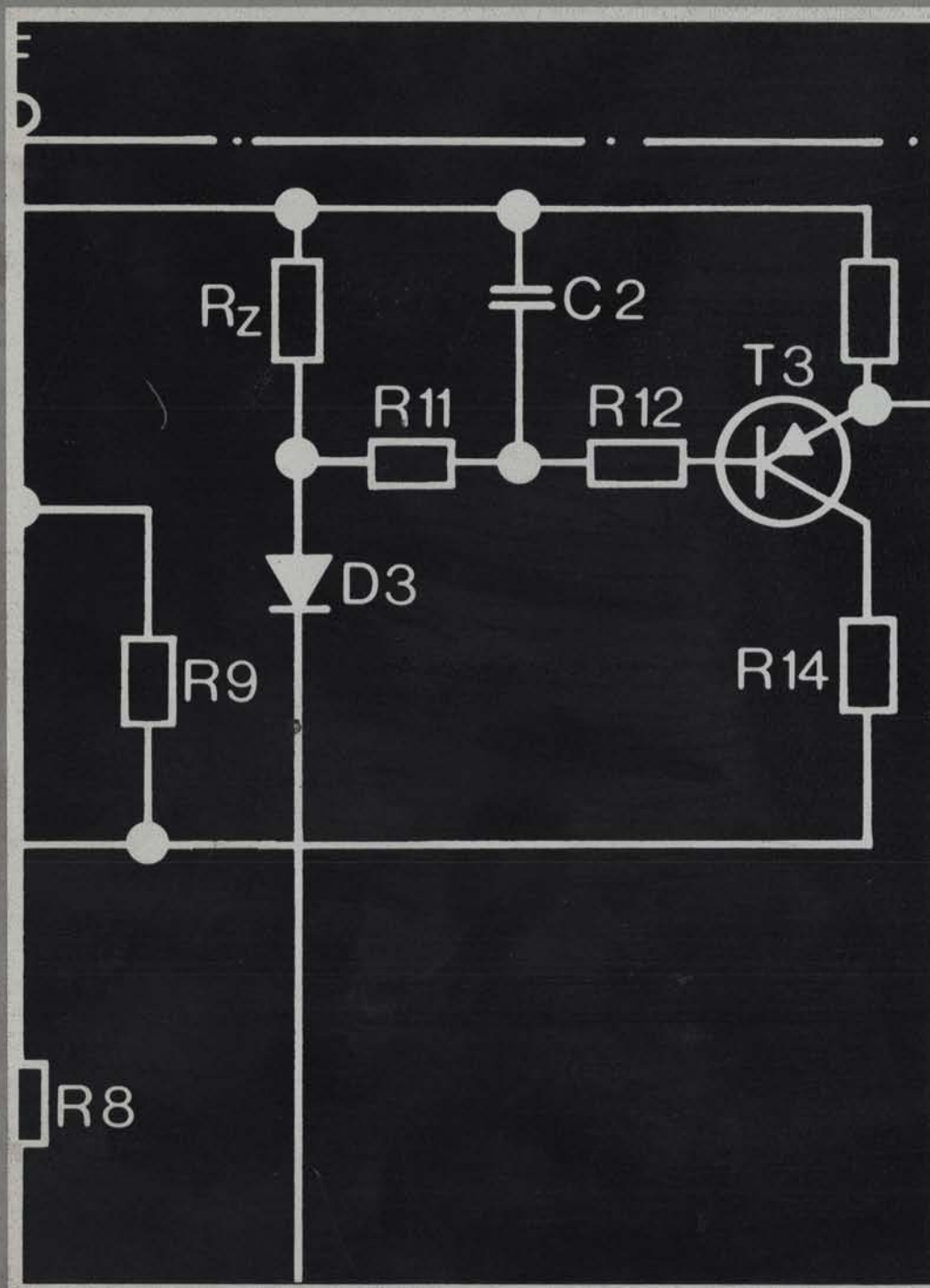
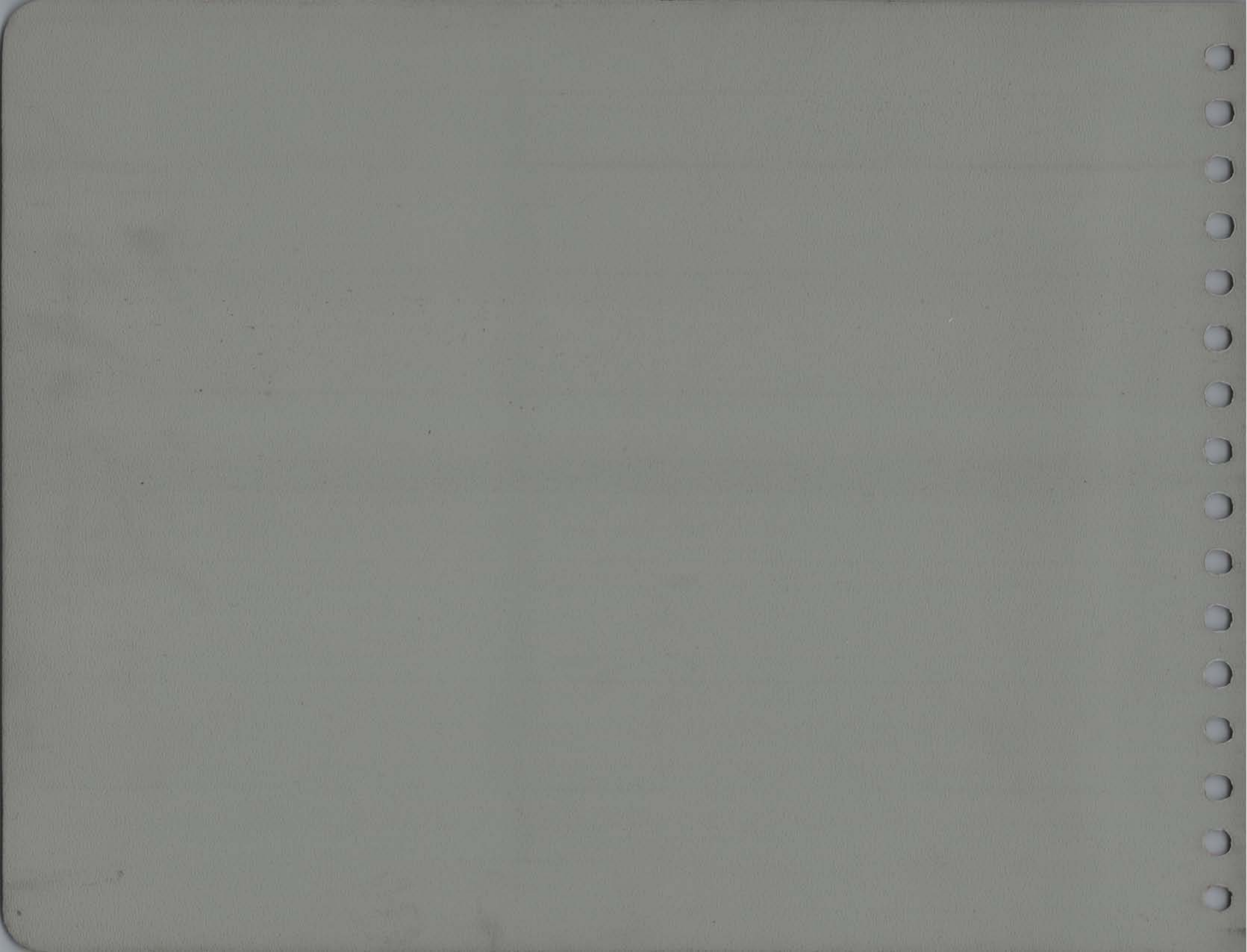


1990 BMW 325i/325is



1990 BMW 325i/325is Electrical Troubleshooting Manual

BMW of North America, Inc.
Woodcliff Lake, New Jersey





1990

BMW 325i/325is

Electrical

Troubleshooting

Manual

BMW of North America, Inc.
Woodcliff Lake, New Jersey

FOREWORD

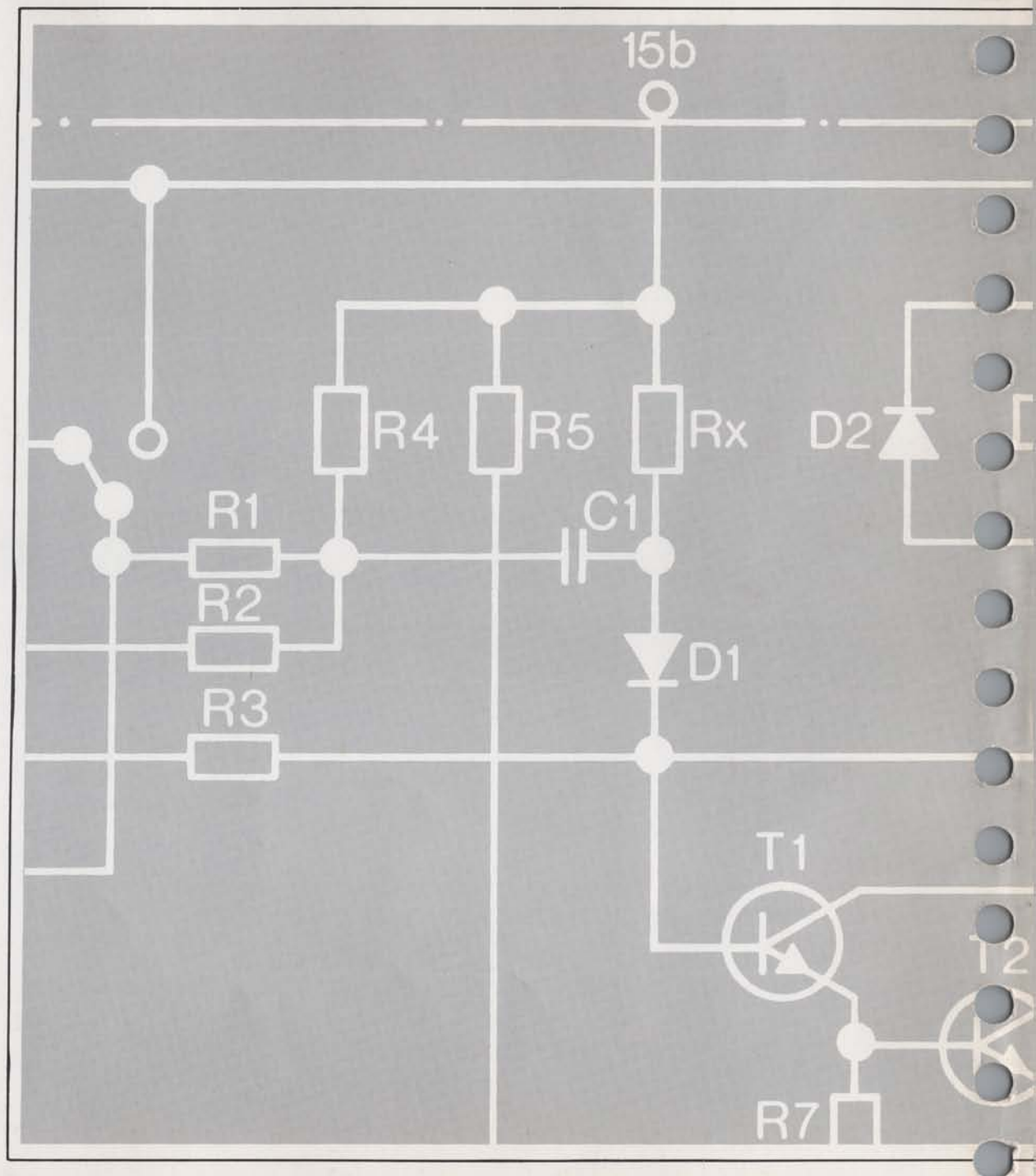
In the interests of continuing technical development work we reserve the right to modify designs and equipment.

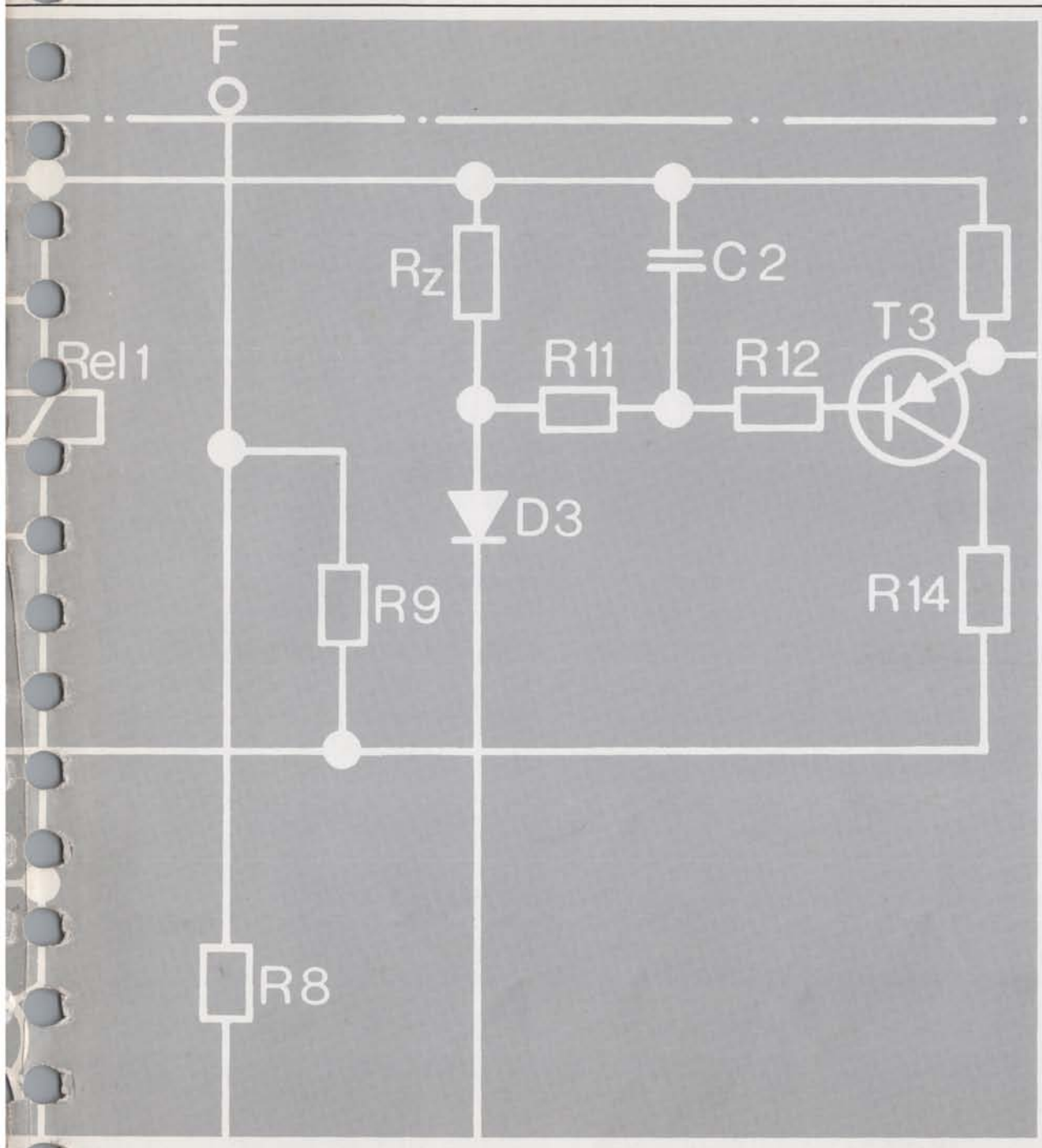
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PN 89 89 1 000 336





**1990
BMW 325i/325is
Electrical
Troubleshooting
Manual**

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The purpose of this manual is to show electrical schematics in a manner that makes electrical troubleshooting easier. Electrical components which work together are shown together on one schematic. The Wiper-Washer schematic, for example, shows all of the electrical components in one diagram. At the top of the page is the fuse (positive) that powers the circuit. The flow of current is shown through all wires, connectors, switches, and motors to ground (negative) at the bottom of the page.

Within the schematic, all switches and sensors are shown "at rest," as though the Ignition Switch were off. For identification, component names are underlined and placed next to or above each component. Notes are included, describing how switches and other components work.

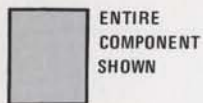
The power distribution schematic shows the current feed through all the connections from the Battery and Alternator to each fuse and the Ignition and Light Switches. If the Power Distribution schematic is combined with any other circuit schematic, a complete picture is made of how that circuit works. The Ground Distribution schematics show how several circuits are connected to common grounds.

All wiring between components is shown exactly as it exists in the vehicle; however, the wiring is not drawn to scale. To aid in understanding electrical operation, wiring inside complicated components has been simplified. The "Solid State" label designates electronic components.

WIRE SIZE CONVERSION CHART	
METRIC (CROSSSECTIONAL AREA IN MM ²)	AWG (AMERICAN WIRE GAUGE)
.5	20
.75	18
1	16
1.5	14
2	14
2.5	12
4	10
6	8
8	8
16	4
20	4
25	2
32	2

WIRE INSULATION	
ABBREVIATIONS	COLOR
BK	BLACK
BR	BROWN
RD	RED
YL	YELLOW
GN	GREEN
BU	BLUE
VI	VIOLET
GY	GRAY
WT	WHITE
PK	PINK

4 SYMBOLS



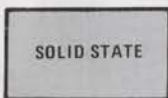
ENTIRE
COMPONENT
SHOWN



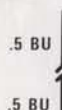
PART OF A
COMPONENT
SHOWN



COMPONENT
WITH SCREW
TERMINALS



SOLID STATE
(INCLUDES ONLY
ELECTRONIC PARTS)



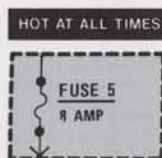
CONNECTOR ON
COMPONENT
LEAD (PIGTAIL)



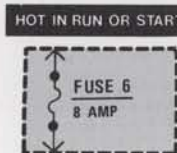
CONNECTOR
ATTACHED TO
COMPONENT



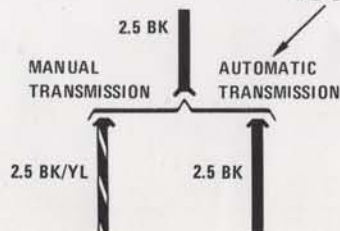
COMPONENT
CASE IS
DIRECTLY
ATTACHED TO
METAL PART
OF CAR
(GROUNDED)



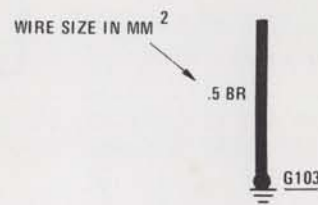
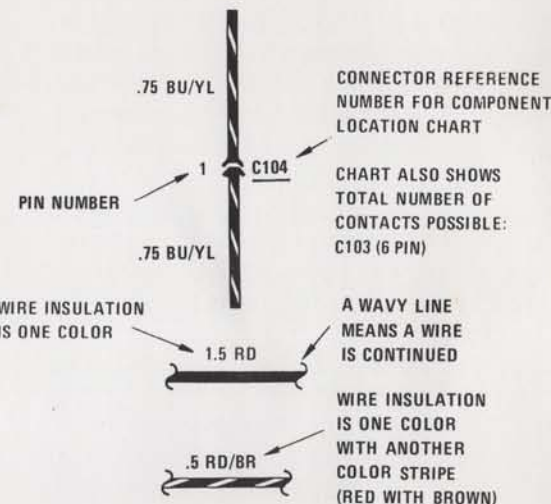
INDICATES THAT FUSE 5
IS ALWAYS SUPPLIED
WITH POWER



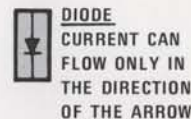
INDICATES THAT FUSE 6
IS SUPPLIED WITH POWER
WITH THE IGNITION
SWITCH IN THE RUN OR
START POSITIONS



WIRE CHOICES
FOR OPTIONS
ARE SHOWN
AND LABELED

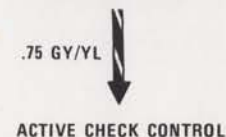


WIRE IS ATTACHED TO
METAL PART OF CAR
(GROUNDED)
GROUND IS NUMBERED
FOR REFERENCE ON
COMPONENT LOCATION CHART
OTHER CIRCUITS THAT SHARE
A GROUND ARE SHOWN
IN GROUND DISTRIBUTION

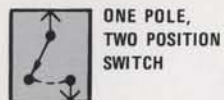


DIODE
CURRENT CAN
FLOW ONLY IN
THE DIRECTION
OF THE ARROW

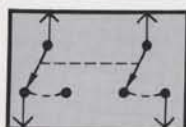
CIRCUIT REFERENCE -
A WIRE WHICH CONNECTS
TO ANOTHER CIRCUIT



ACTIVE CHECK CONTROL

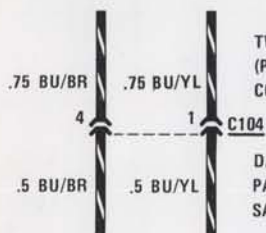


ONE POLE,
TWO POSITION
SWITCH



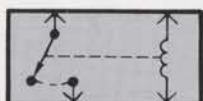
SWITCHES THAT
MOVE TOGETHER

DASHED LINE SHOWS
A MECHANICAL
CONNECTION
BETWEEN SWITCHES



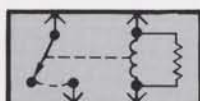
TWO CONNECTIONS
(PINS) IN THE SAME
CONNECTOR

DASHED LINE SHOWS
PARTS OF THE
SAME CONNECTOR



WHEN COIL IS
ENERGIZED, SWITCH
IS PULLED CLOSED

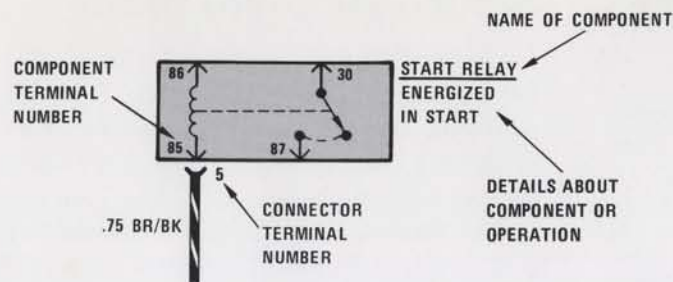
RELAY SHOWN
WITH NO
CURRENT
FLOWING
THROUGH
COIL



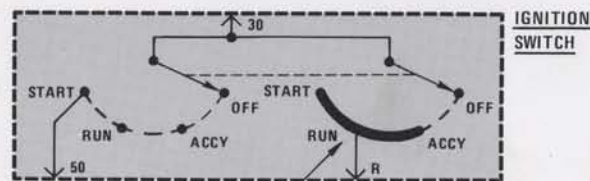
RELAY SHOWN
WITH RESISTOR
ACROSS COIL

RESISTOR ACROSS COIL
IS FOR NOISE
SUPPRESSION

RELAY SHOWN
WITH RESISTOR
ACROSS COIL

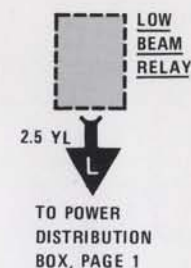


TWO POLE, FOUR
POSITION SWITCH

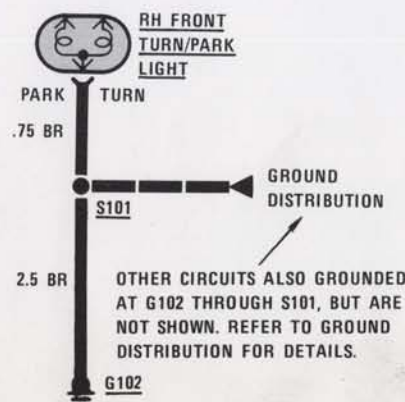
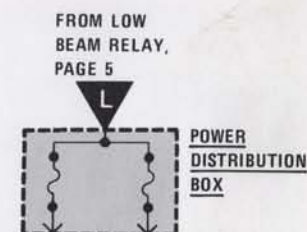


"R" IS ENERGIZED
IN ACCY, RUN OR START

IGNITION
SWITCH



CURRENT PATH
IS CONTINUED
AS LABELED.
THE ARROW SHOWS
DIRECTION OF CURRENT
FLOW AND IS REPEATED
WHERE CURRENT
PATH CONTINUES.



TROUBLESHOOTING PROCEDURE

1. Verify the Problem

Operate the problem circuit to check the accuracy of the complaint. Note the symptoms of the inoperative circuit.

2. Analyze the Problem

Refer to the schematic of the problem circuit in the ETM. Determine how the circuit is supposed to work by tracing the current path(s) from the power feed through the circuit components to ground. Then based on the symptoms you noted in step 1 and your understanding of circuit operation, identify one or more possible causes of the problem.

3. Isolate the Problem

Make circuit tests to prove or disprove the preliminary diagnosis made in step 2. Keep in mind that a logical simple procedure is the key to efficient troubleshooting. Test for the most likely cause of failure first. Try to make tests at points which are easily accessible.

4. Repair the Problem

Once the specific problem is identified, make the repair using the proper tools and safe procedures.

5. Check the Problem

Operate the circuit to check for satisfactory circuit operation. Good repair practice calls for rechecking all circuits you have worked on.

TROUBLESHOOTING TOOLS

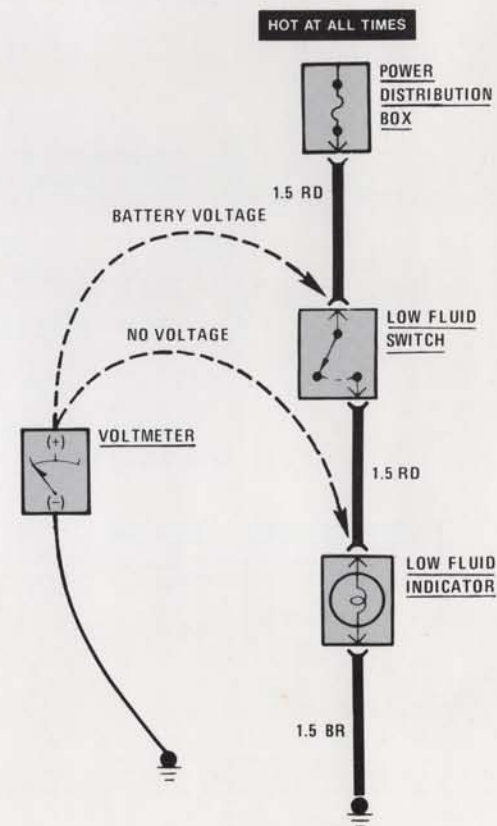
Isolating the problem (Step 3 of TROUBLESHOOTING PROCEDURES) requires the use of a **voltmeter** and/or **ohmmeter**. A voltmeter measures voltage at selected points in a circuit. An ohmmeter measures a circuit's resistance to current flow. It has an internal battery that provides current to the circuit under test. Disconnect the car battery when using an ohmmeter because the battery voltage will cause the ohmmeter to give false readings. Also, do not use an ohmmeter on solid-state components. The voltage that the ohmmeter applies to the circuit could damage these components.

TROUBLESHOOTING TESTS

Voltage Test

This test measures voltage in a circuit. By taking measurements at several points (terminals or connectors) along the circuit, you can isolate the problem.

To take a voltage measurement, connect the negative lead of the voltmeter to the battery's negative terminal or other known good ground. Then connect the positive lead of the voltmeter to the point you want to test. The voltmeter will measure the voltage present at that point in the circuit.

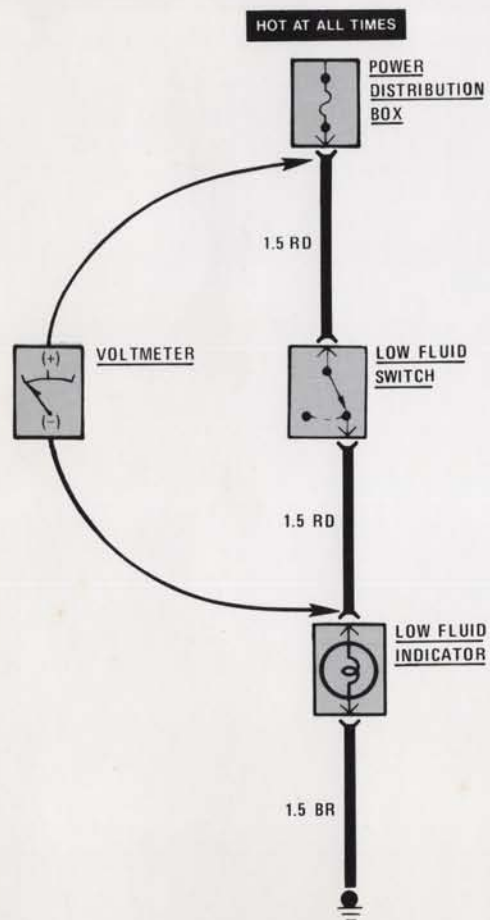


Voltage Test

Voltage Drop Test

Wires, connectors, and switches are designed to conduct current with a minimum loss of voltage. A voltage drop of more than one volt indicates a problem.

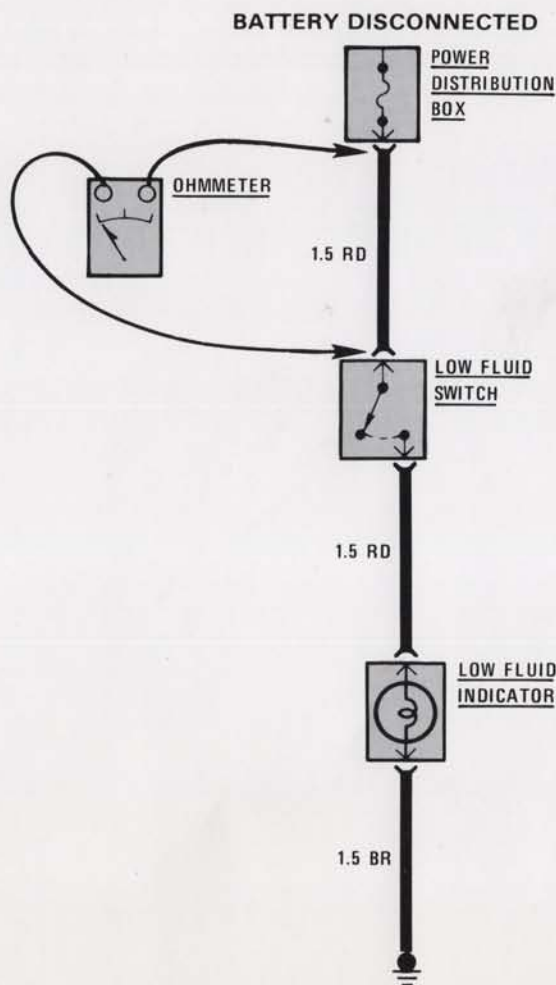
To test for voltage drop, connect the voltmeter leads to connectors at either end of the circuit's suspected problem area. The positive lead should be connected to the connector closest to the power source. The voltmeter will show the voltage drop between these two points.



Voltage Drop Test

Continuity Test

To perform a continuity test, first disconnect the car battery. Then adjust the ohmmeter to read zero while holding the leads together. Connect the ohmmeter leads to connector or terminals at either end of the circuit's suspected problem area. The ohmmeter will show the resistance across that part of the circuit.

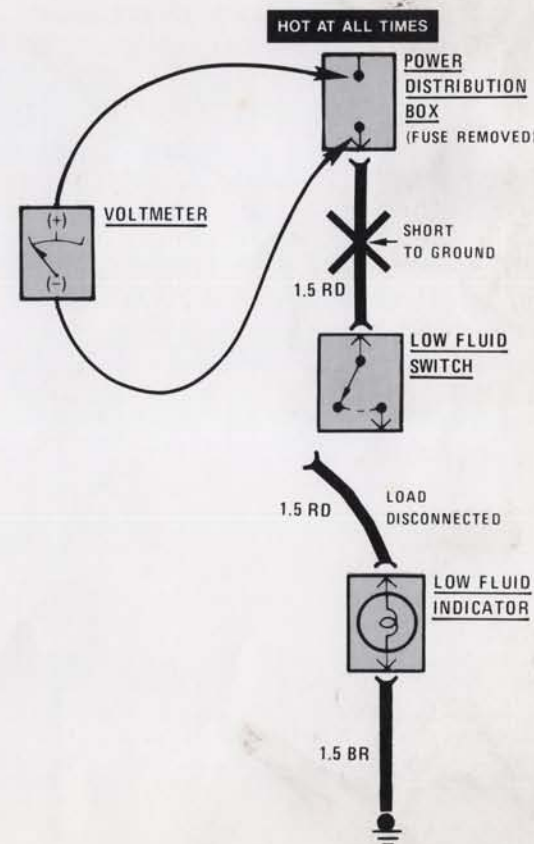


Continuity Test

Short Test Using Voltmeter

Remove the blown fuse and disconnect the load. Connect the voltmeter leads to the fuse terminals. The positive lead should be connected to the terminal closest to the power source.

Starting near the POWER DISTRIBUTION BOX, move the wire harness back and forth and watch the voltmeter reading. If the voltmeter registers a reading, there is a short to ground in the wiring. Somewhere in the area of the harness being moved, the wire insulation is worn away and the circuit is grounding.



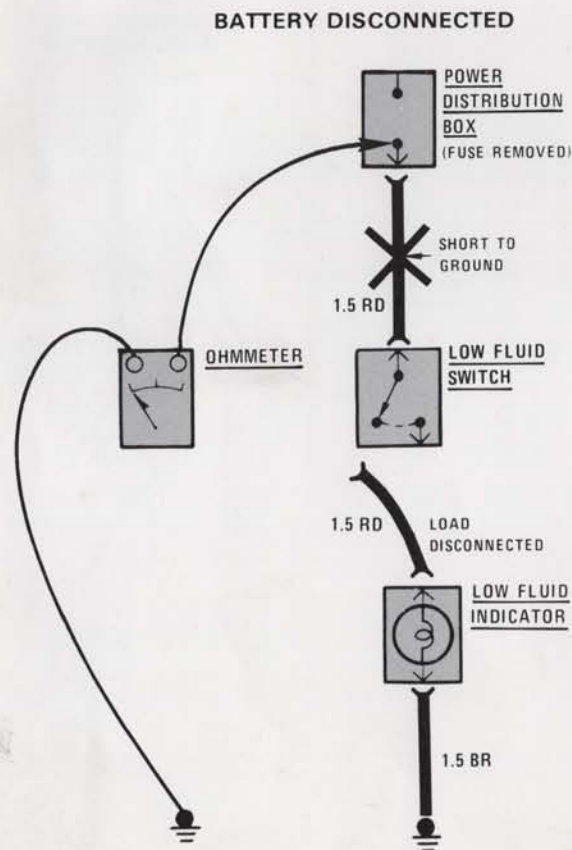
Short Test Using Voltmeter

8 SYSTEMATIC TROUBLESHOOTING

Short Test Using Ohmmeter

Disconnect the battery. Adjust the ohmmeter to read zero while holding the leads together. Remove the blown fuse and disconnect the load. Connect one lead of the ohmmeter to the fuse terminal that is closest to the load. Connect the other lead to a known good ground.

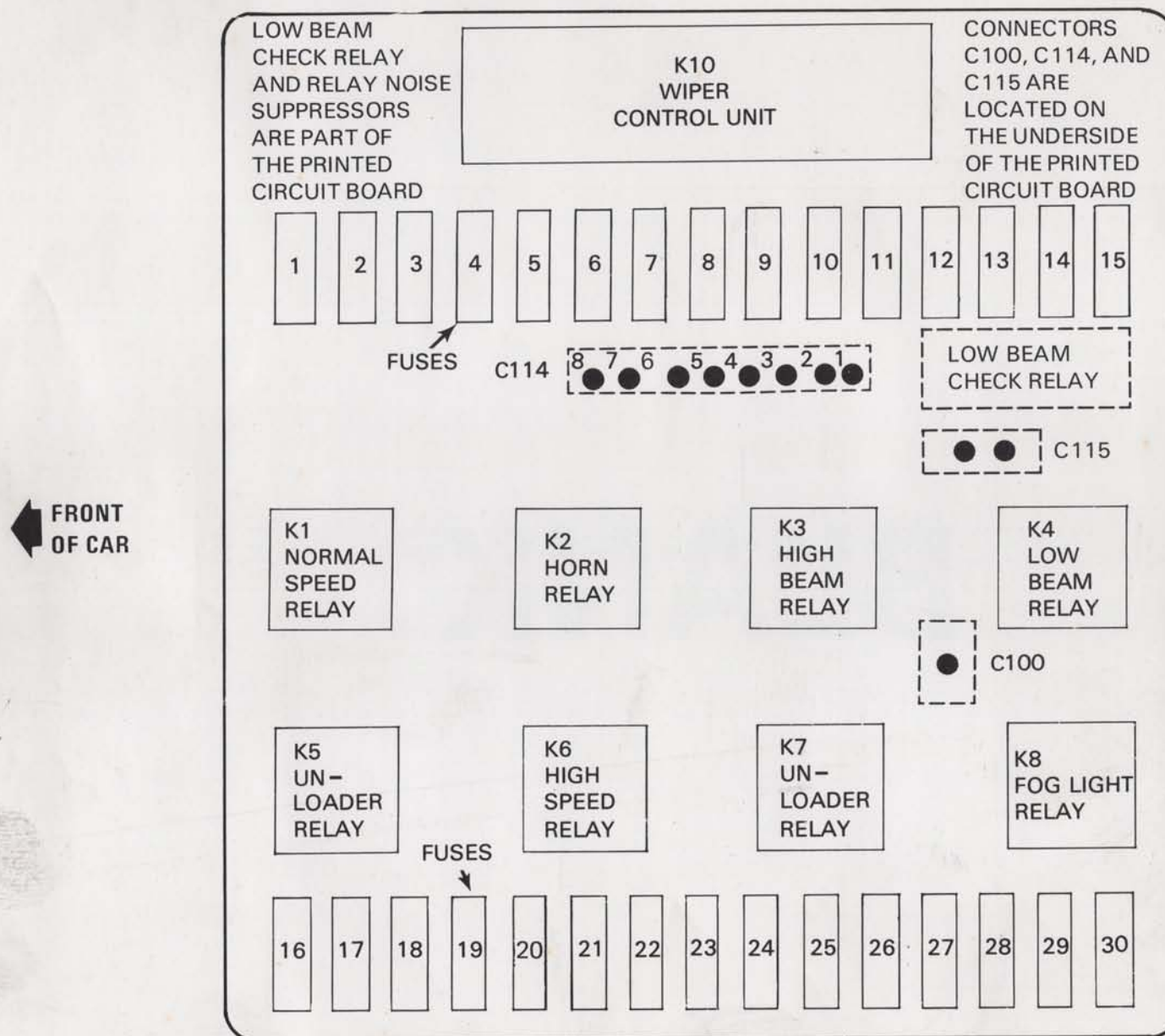
Starting near the POWER DISTRIBUTION BOX, move the wire harness back and forth and watch the ohmmeter reading. Low or no resistance indicates a short to ground in the wiring. Infinitely high resistance indicates no short.



Short Test Using Ohmmeter

BLANK

POWER DISTRIBUTION BOX

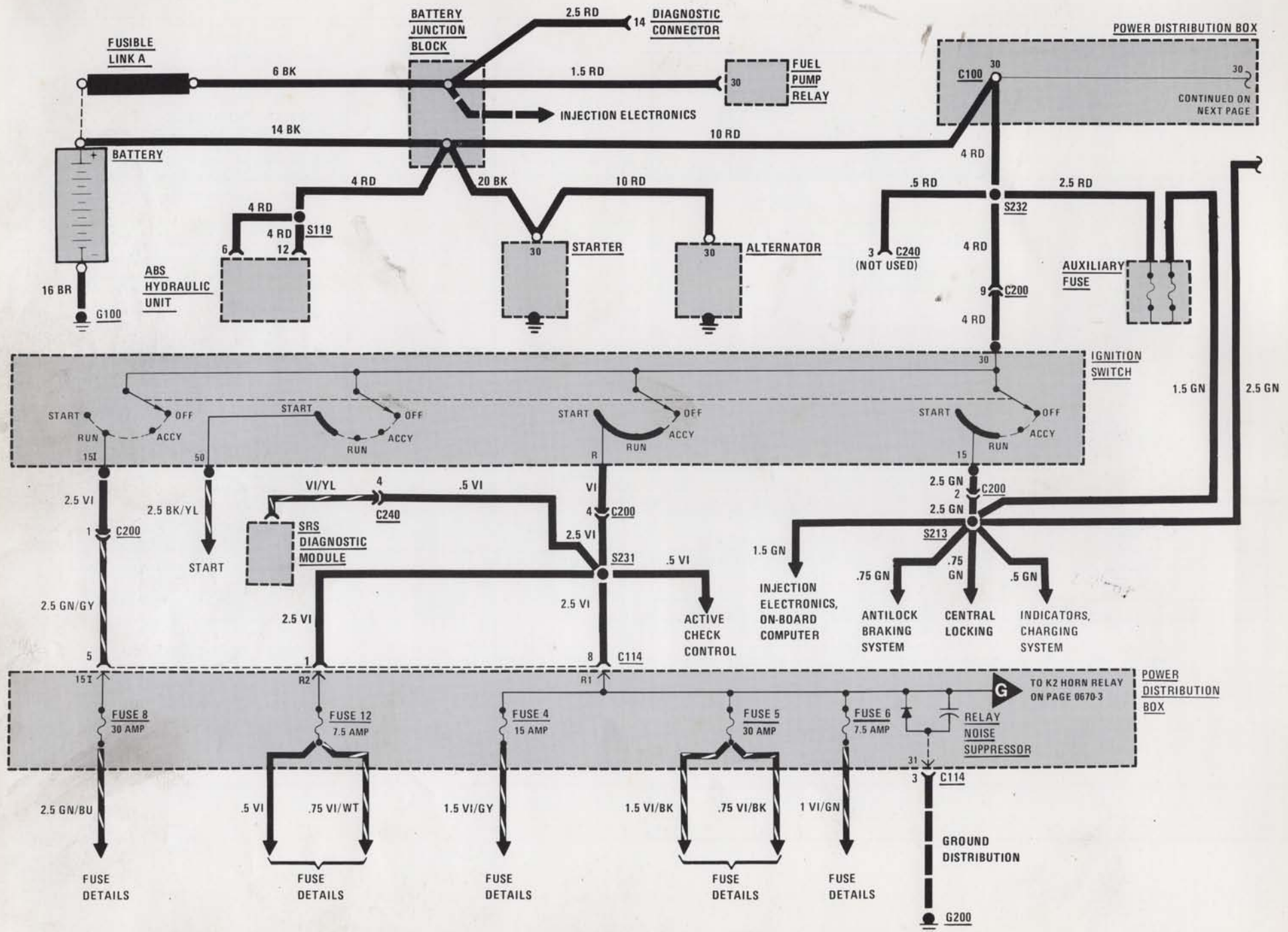


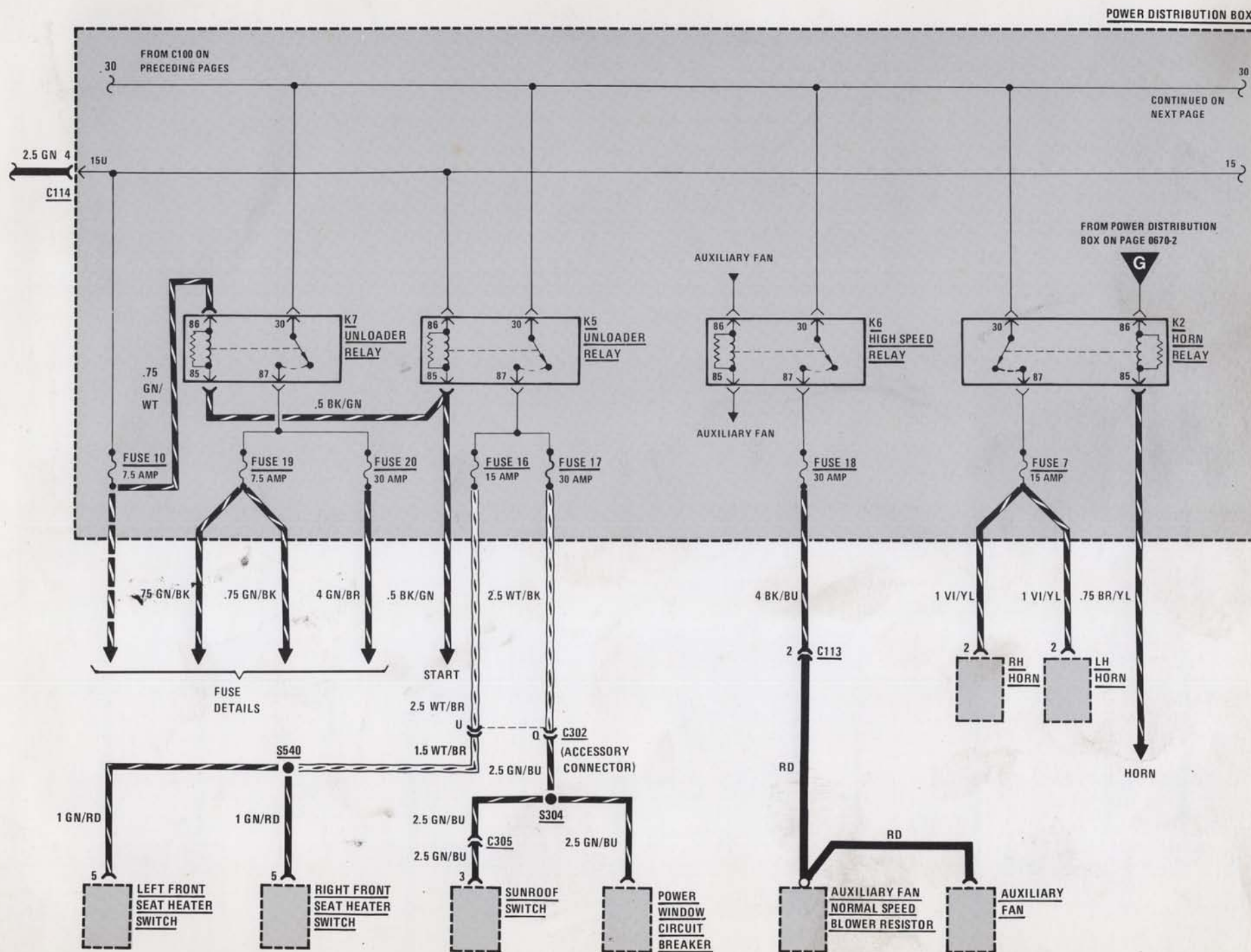
FUSE DATA CHART

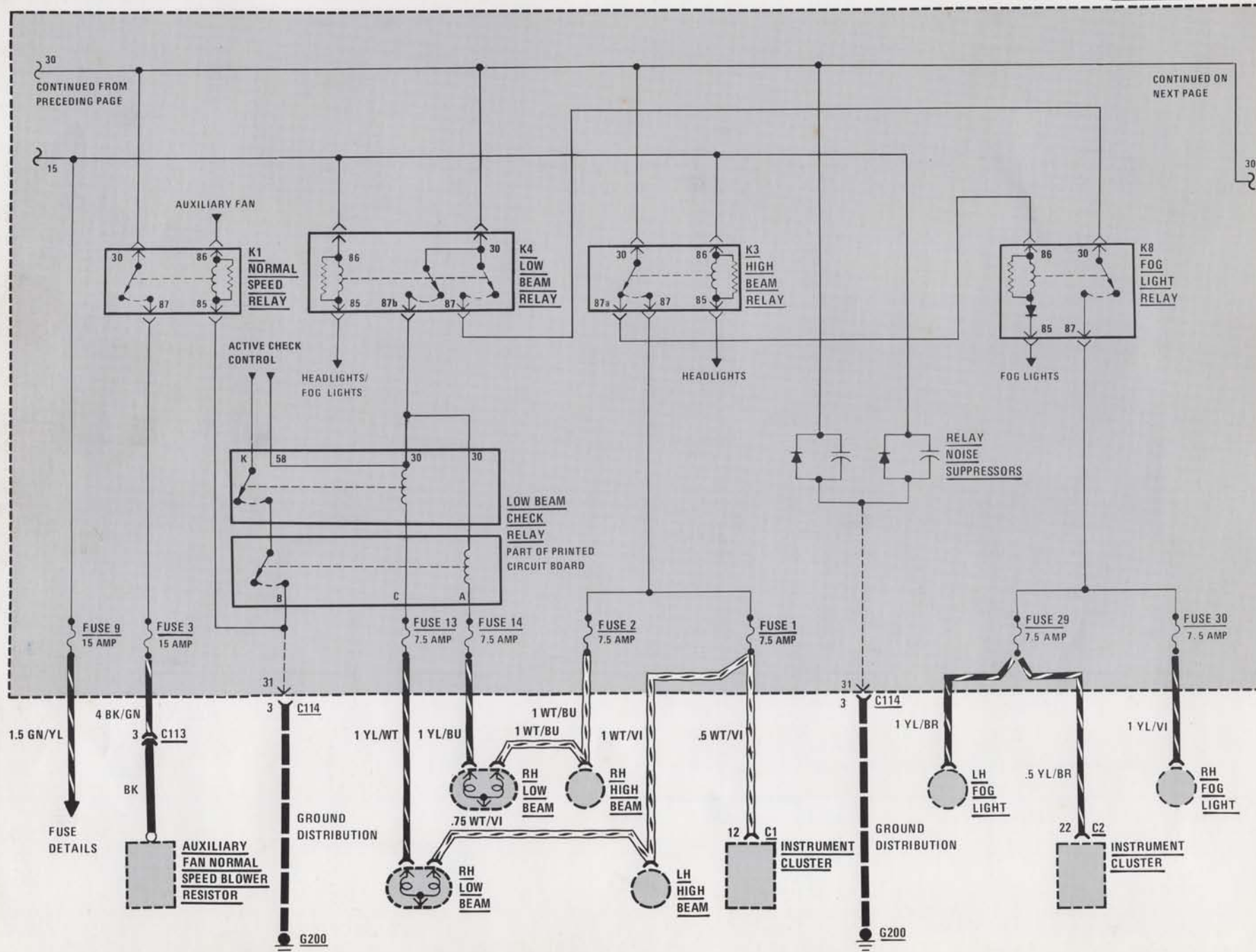
FUSE NO.	SIZE	CIRCUIT NAME
1	7.5A	Headlights (also fuses 2, 13, 14).
2	7.5A	Headlights (also fuses 1, 13, 14).
3	15A	Auxiliary Fan (also fuses 18, 19, 20).
4	15A	Active Check Control (also fuses 6, 10, 21, 22, 23); Glove Box Light; Lights: Turn/Hazard Warning (also fuse 24).
5	30A	Wiper/Washer.
6	7.5A	Stop Lights/Cruise Control (also fuse 10); Active Check Control (also fuses 4, 10, 21, 22, 23); Antilock Braking System; Cruise Control (also fuses 10); Map Reading Light.
7	15A	Horn.
8	30A	Rear Defogger (also fuse 23).
9	15A	Injection Electronics (also fuses 10, 11, 21).
10	7.5A	Ignition Key Warning/Seatbelt Warning (also Fuse 21); Seatbelt Warning (also fuse 21); Service Interval Indicator (also fuse 21); Tachometer/Fuel Economy Gauges (also fuse 21); Gauges/Indicators; Brake Warning System; Back Up Lights; On-Board Computer (also fuses 12, 21, 23, 27); Start; Injection Electronics (also fuses 9, 11, 21); Active Check Control (also fuses 4, 6, 21, 22, 23); Cruise Control (also fuse 6).
11	15A	Injection Electronics (also fuses 9, 10, 21).
12	7.5A	Radio/Antenna (also fuses 21, 27, 28); Speedometer/Indicators; On-Board Computer (also fuses 10, 21, 23, 27).
13	7.5A	Headlights (also fuses 1, 2, 14).
14	7.5A	Headlights (also fuses 1, 2, 13).
15		Not Used.
16	15A	Heated Seats.
17	30A	Power Windows, Sunroof.
18	30A	Auxiliary Fan (also fuses 3, 19, 20).
19	7.5A	Auxiliary Fan (also fuses 3, 18, 20); Interior Lights (also fuses 6, 21, 27); Power Mirrors.

FUSE NO.	SIZE/ COLOR	CIRCUIT NAME
20	30A	Heater/Air Conditioning; Auxiliary Fan (also fuses 3, 18, 19).
21	7.5A	Auto-Charging Flashlight; Ignition Key Warning/Seatbelt Warning (also fuse 10); Injection Electronics (also fuses 9, 10, 11); Interior Lights (also fuses 6, 19, 27); Radio/Antenna (also fuses 12, 27, 28) Trunk Light; Active Check Control (also fuses 4, 6, 10, 22, 23); Service Interval Indicator (also fuse 10); On-Board Computer (also fuses 10, 12, 23, 27); Tachometer/Fuel Economy Gauge (also fuse 10).
22	7.5A	Active Check Control (also fuses 4, 6, 10, 21, 23); Lights: Front Park/Tail (also fuse 23); Lights: Front Side Marker (also fuse 23).
23	7.5A	Lights: Dash Lights: Front Park/Tail (also fuse 22); Lights: Front Side Marker (also fuse 22); Lights: Rear Marker/License; Active Check Control (also fuses 4, 6, 10, 21, & 22); On-Board Computer (also fuses 10, 12, 21, 27); Rear Defogger (also fuse 8).
24	15A	Lights: Turn/Hazard Warning (also fuse 4).
25		Not Used.
26		Not Used.
27	30A	Interior Lights (also fuses 6, 19, 21); Central Locking; Radio/Antenna (also fuses 12, 21, 28); On-Board Computer (also fuses 10, 12, 21, 23).
28	30A	Cigar Lighter; Radio/Antenna (also fuses 12, 21, 27).
29	7.5A	Fog Lights (also fuse 30).
30	7.5A	Fog Lights (also fuse 29).
POWER WINDOW CIRCUIT BREAKER		25A Power Windows

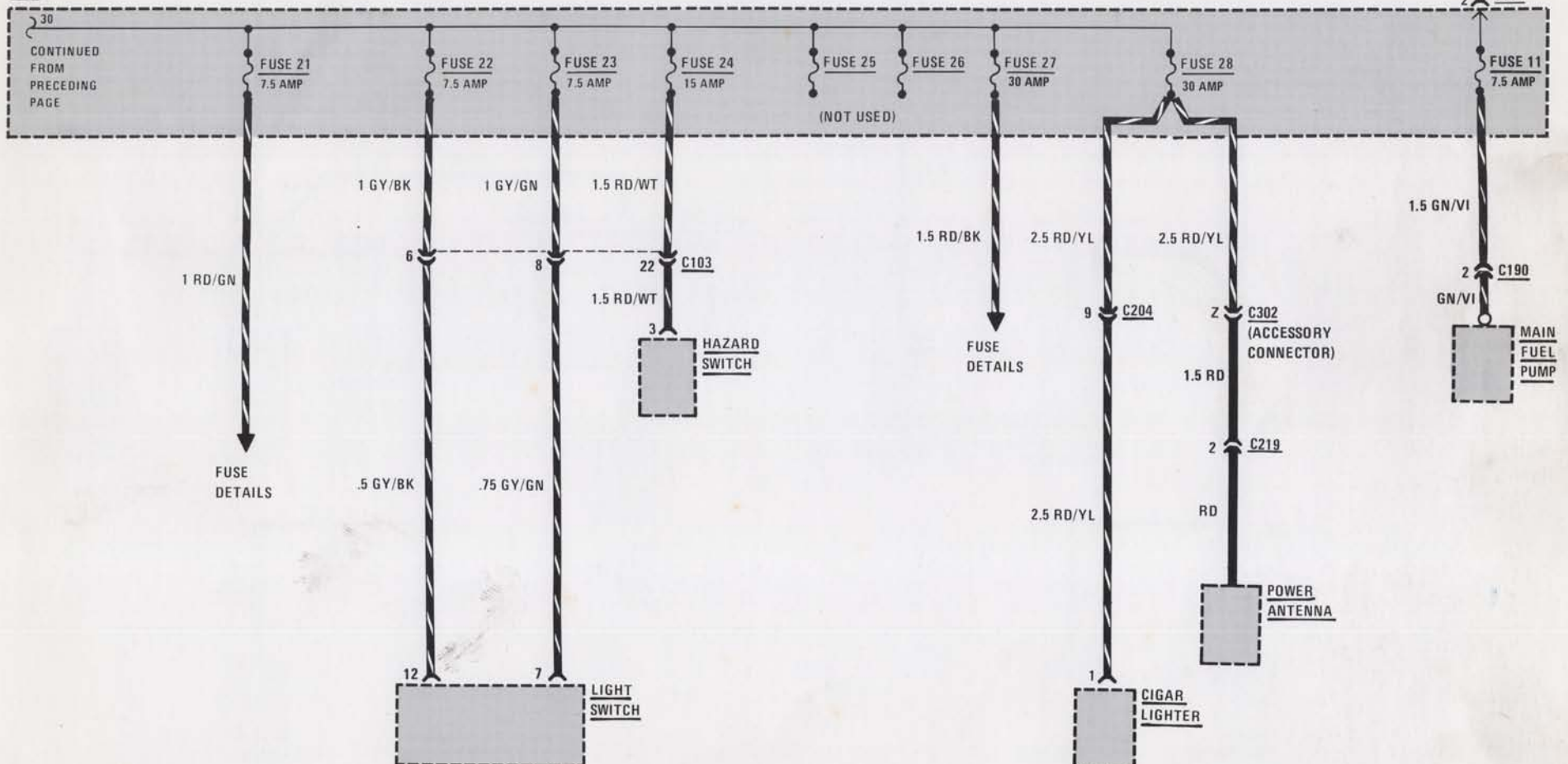
0670-2 POWER DISTRIBUTION



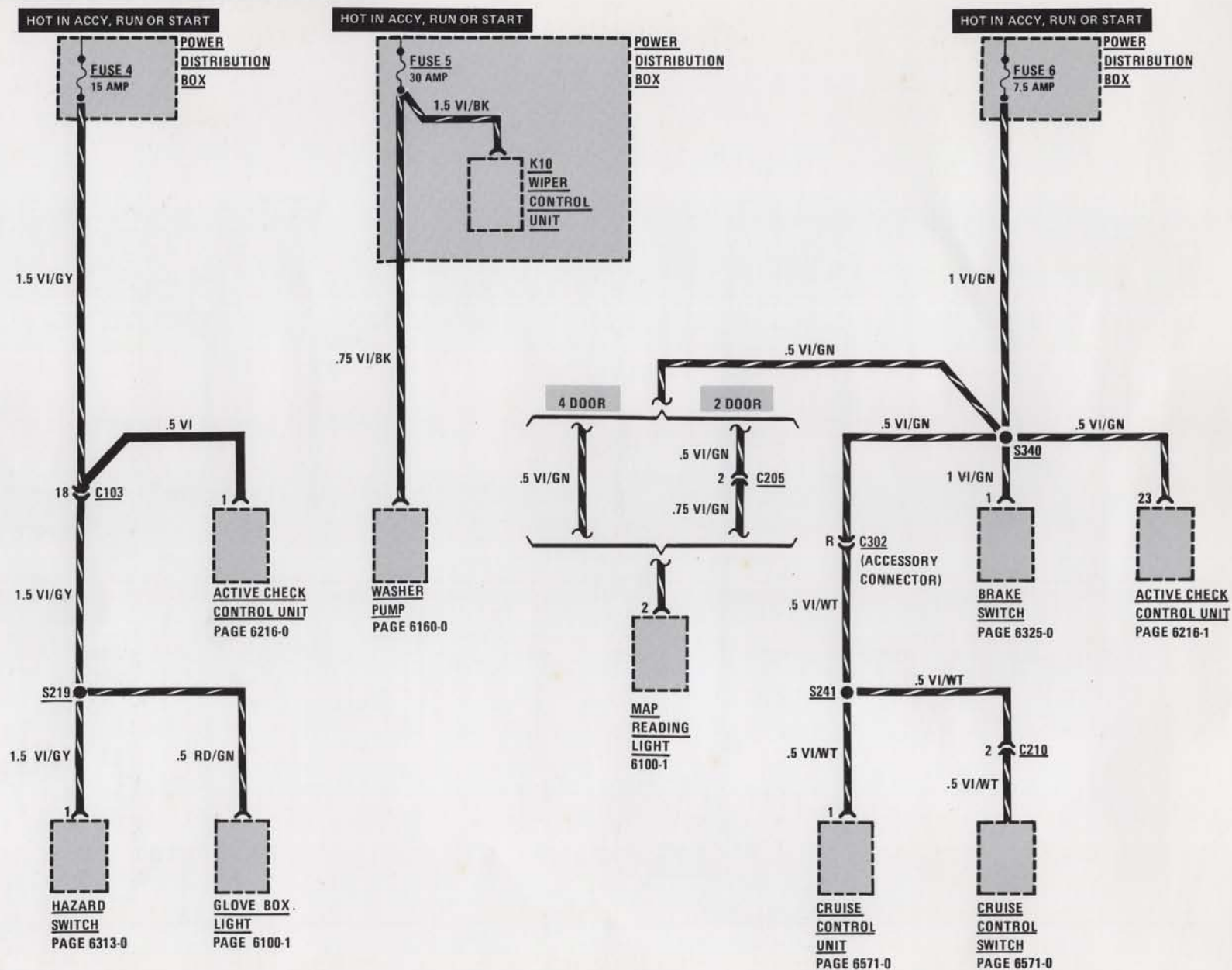




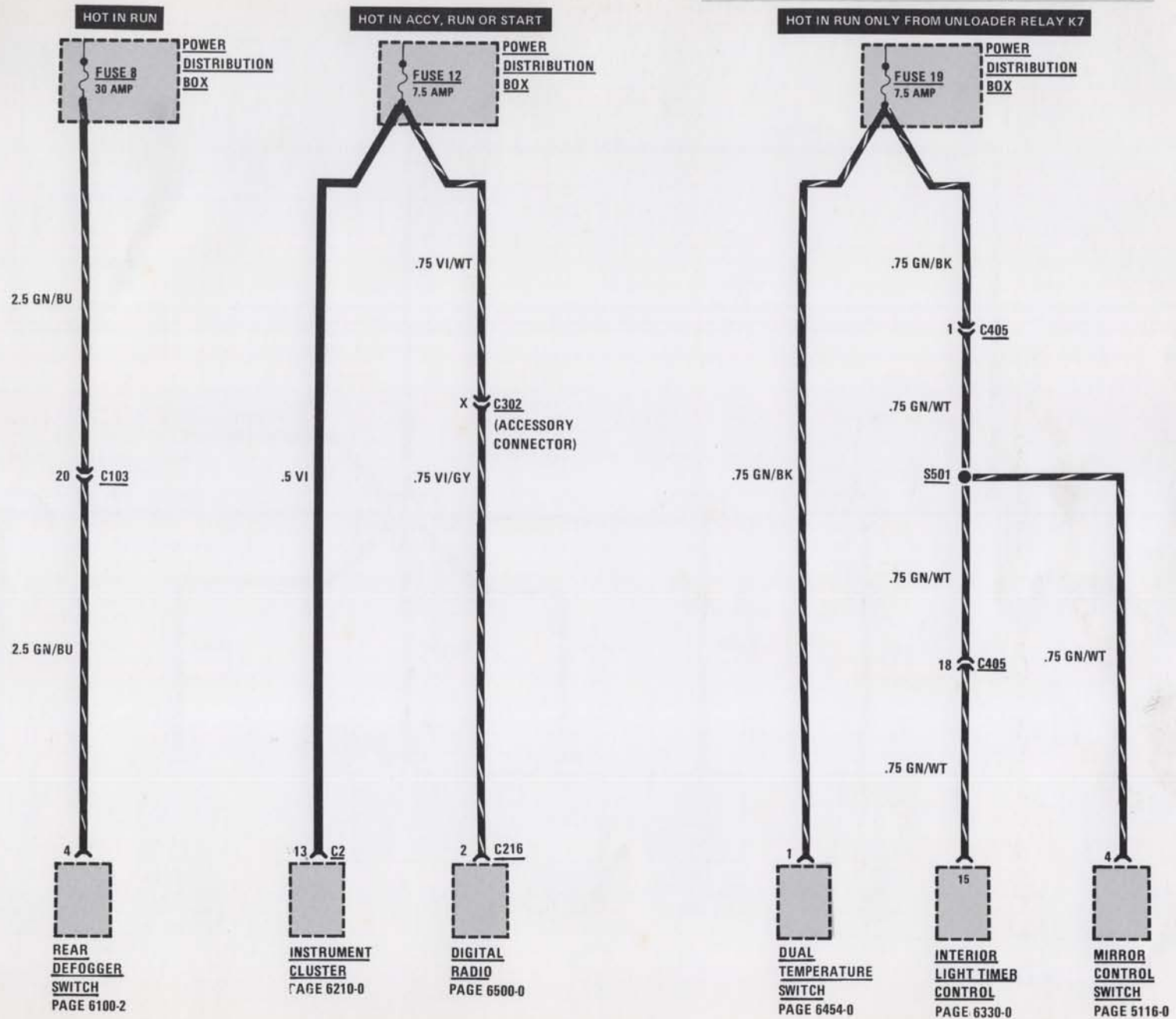
POWER
DISTRIBUTION
BOX



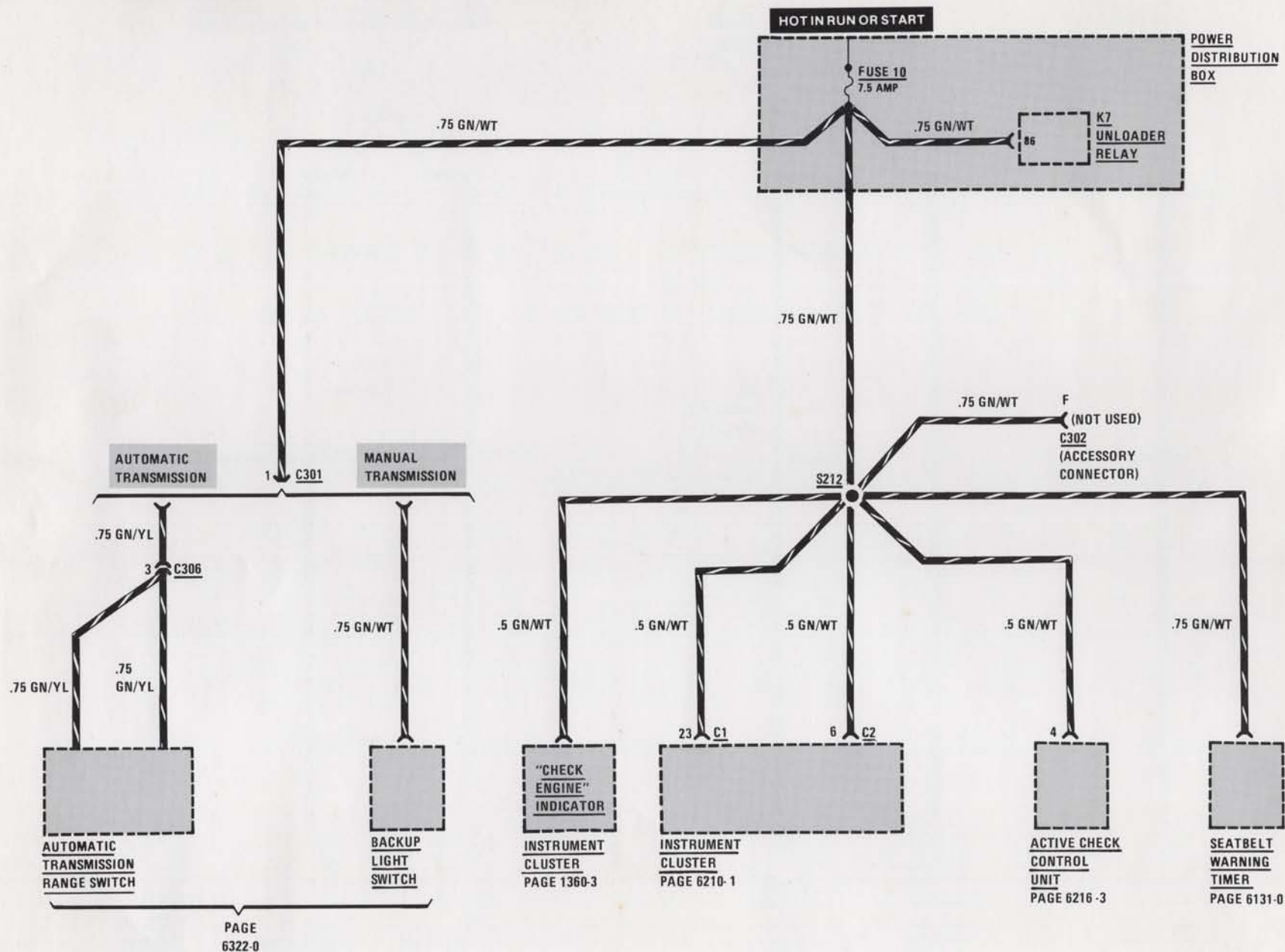
FUSE DETAILS: FUSES 4, 5, AND 6



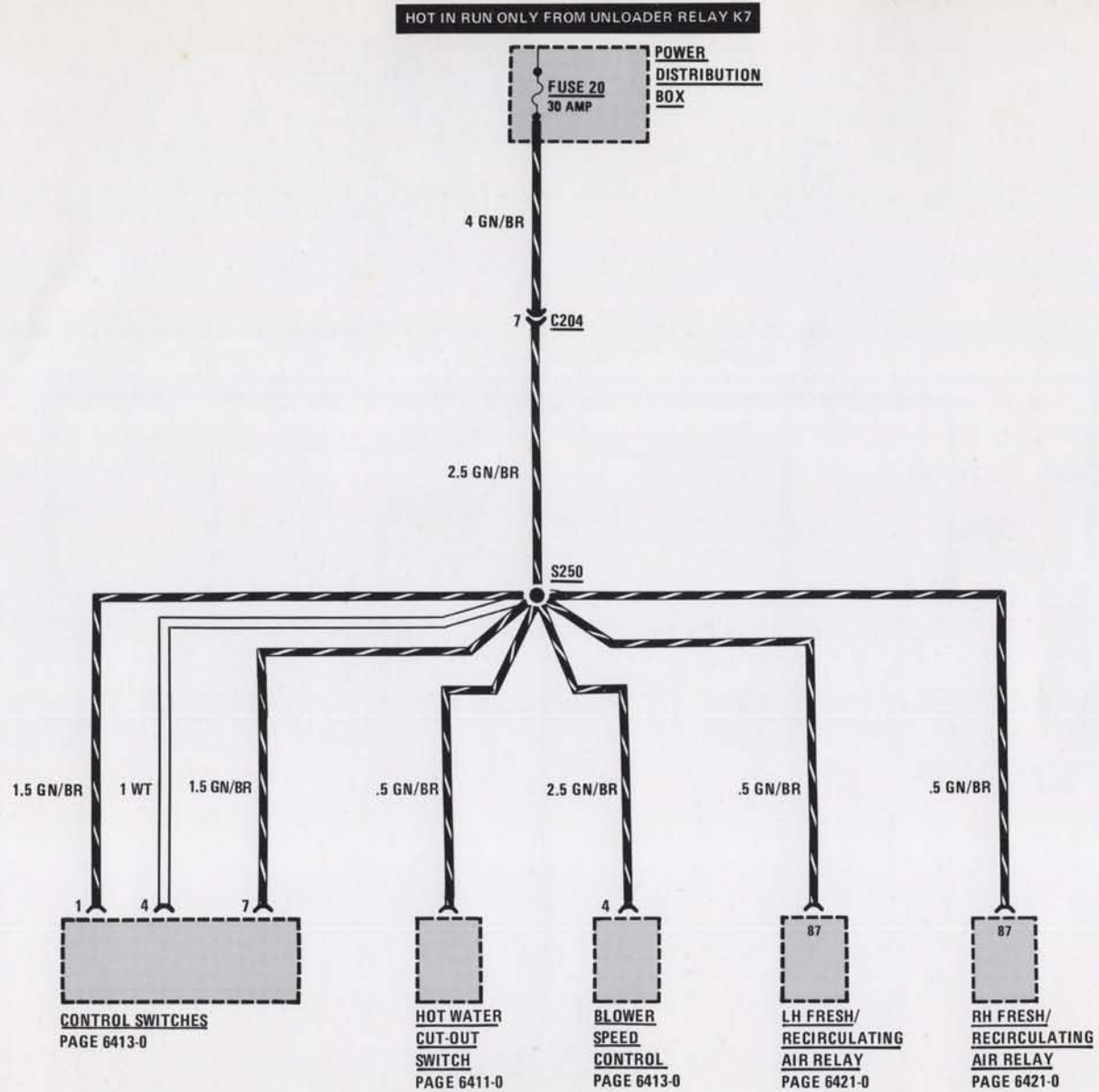
FUSE DETAILS: FUSES 8, 12 AND 19

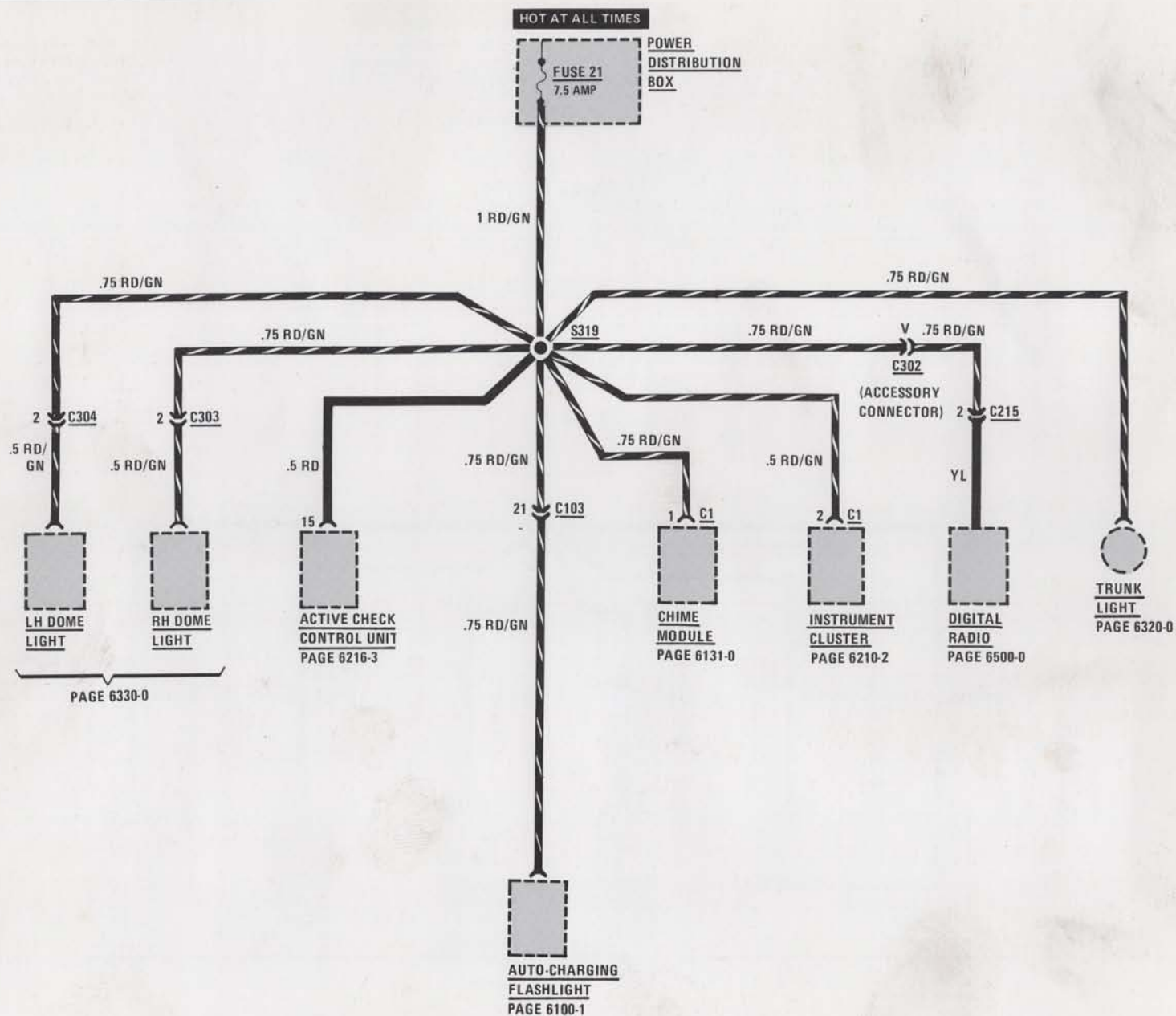


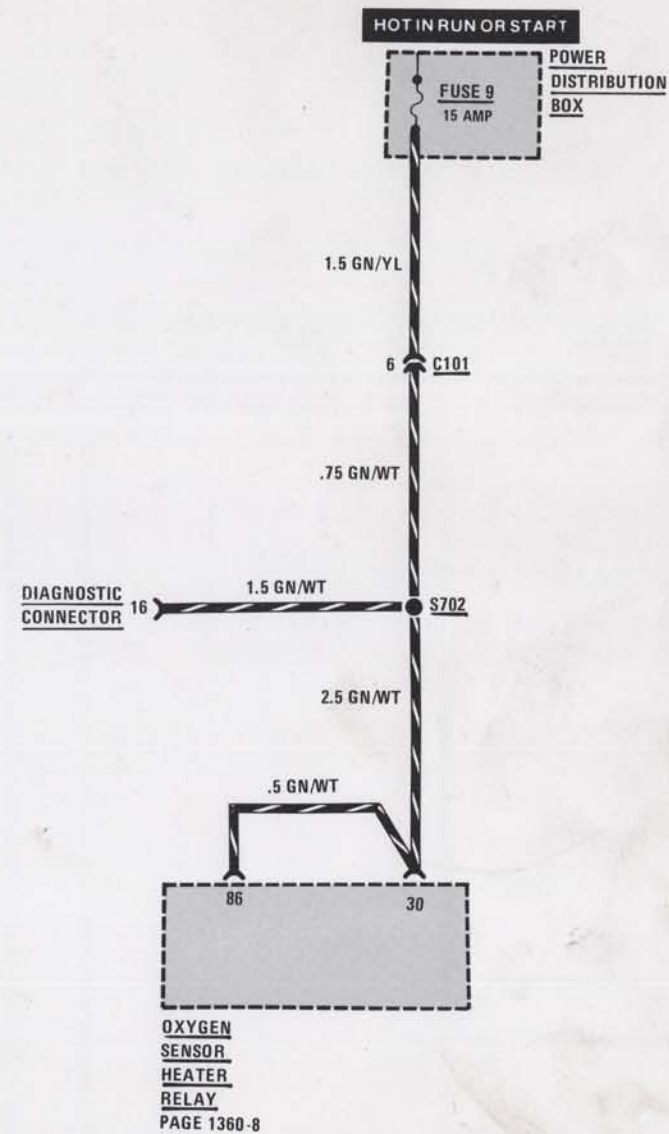
FUSE DETAILS: FUSE 10



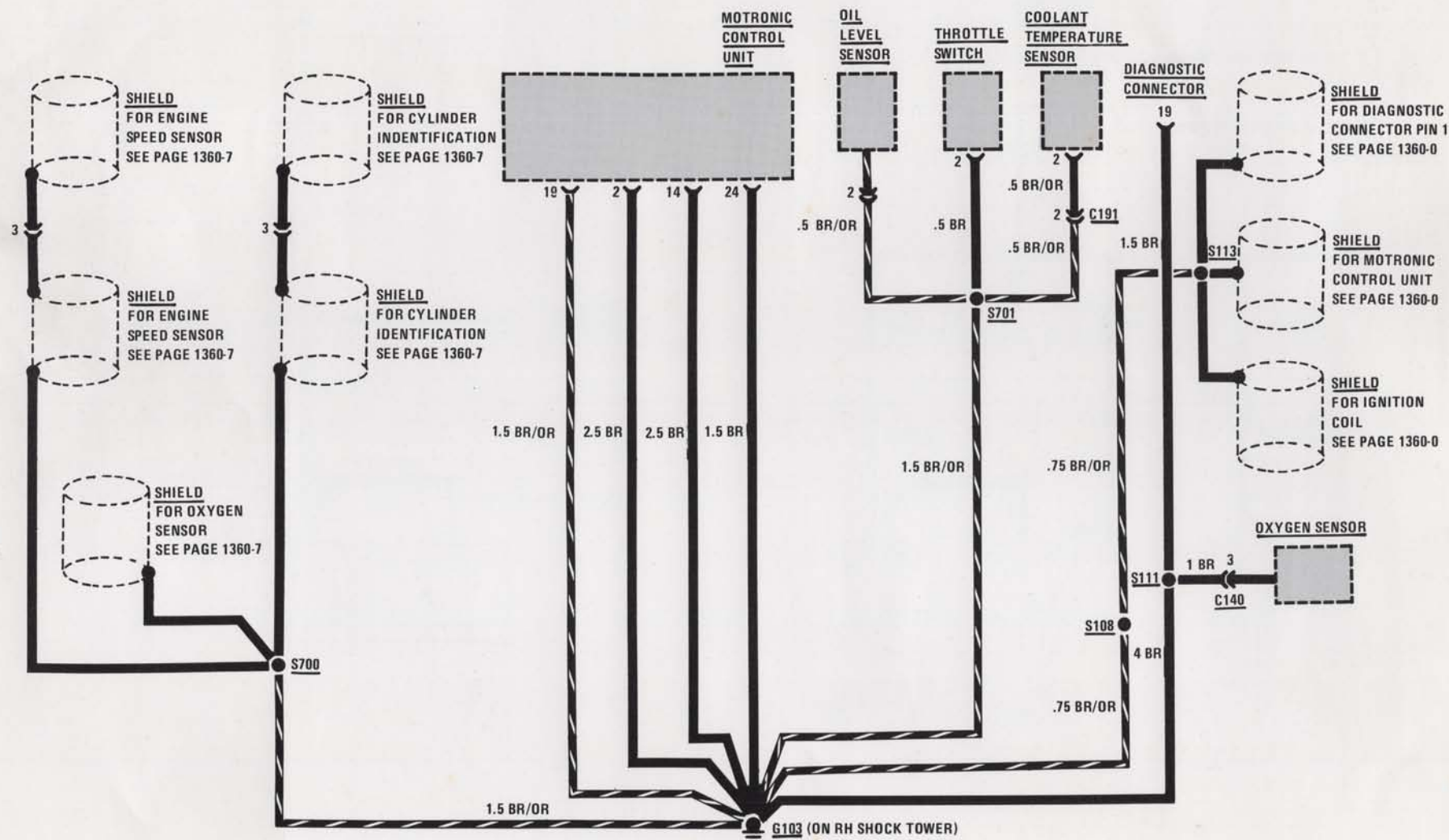
FUSE DETAILS: FUSE 20



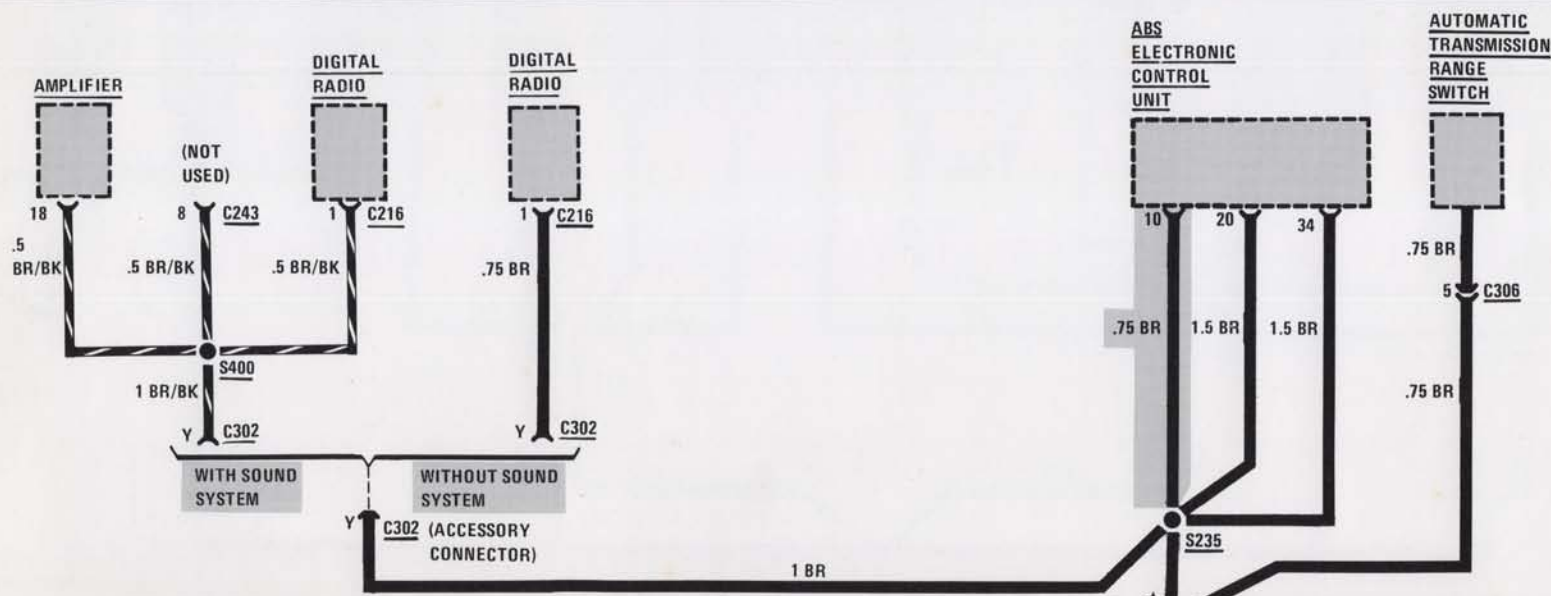
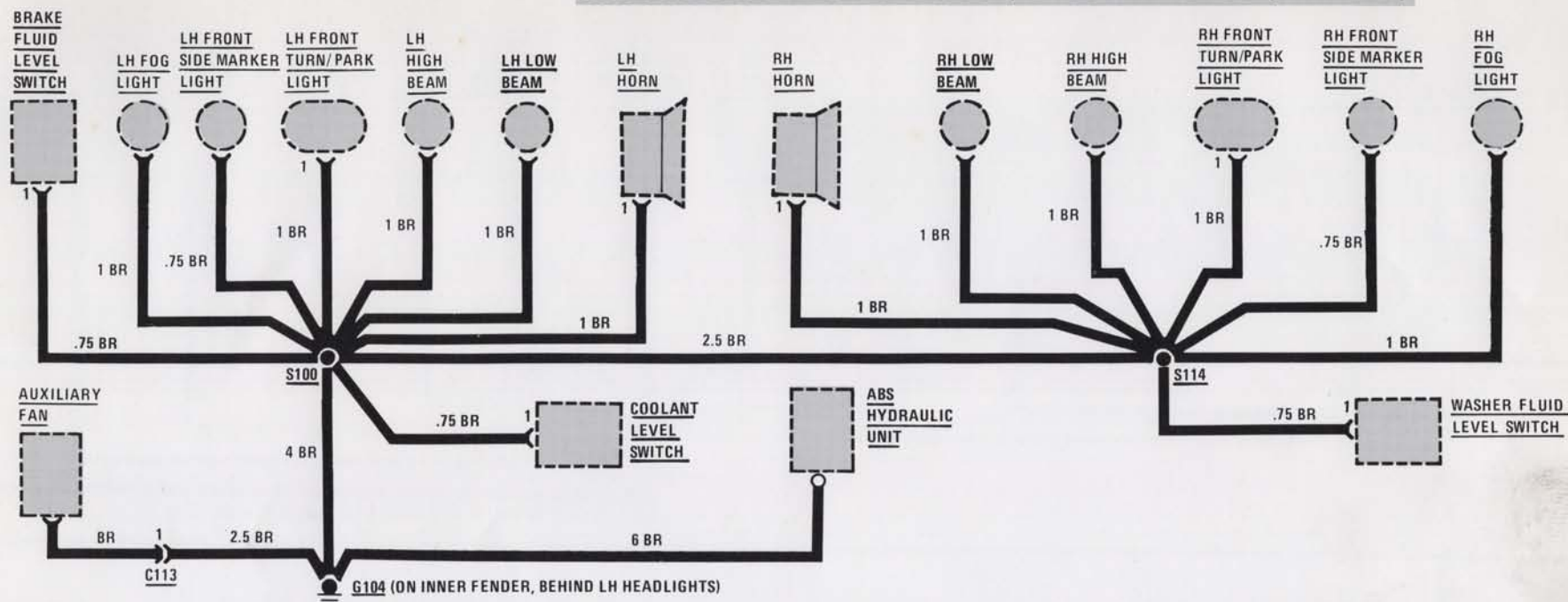




GROUND DISTRIBUTION: G103



GROUND DISTRIBUTION: G104, G106 AND G200 (PARTIAL)

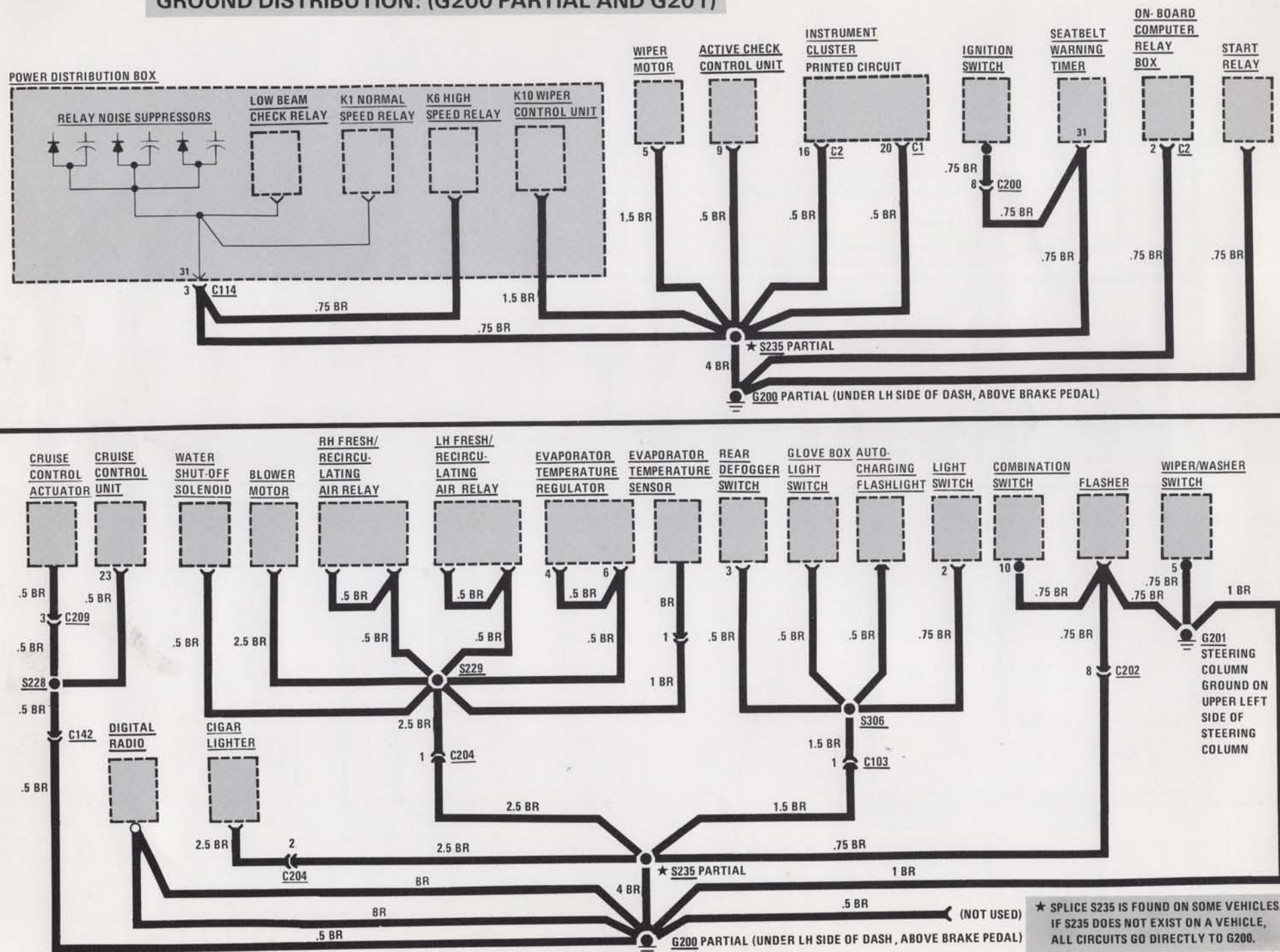


★ SPlice S235 IS FOUND ON SOME VEHICLES. IF S235 DOES NOT EXIST ON A VEHICLE, ALL CIRCUITS GO DIRECTLY TO G200.

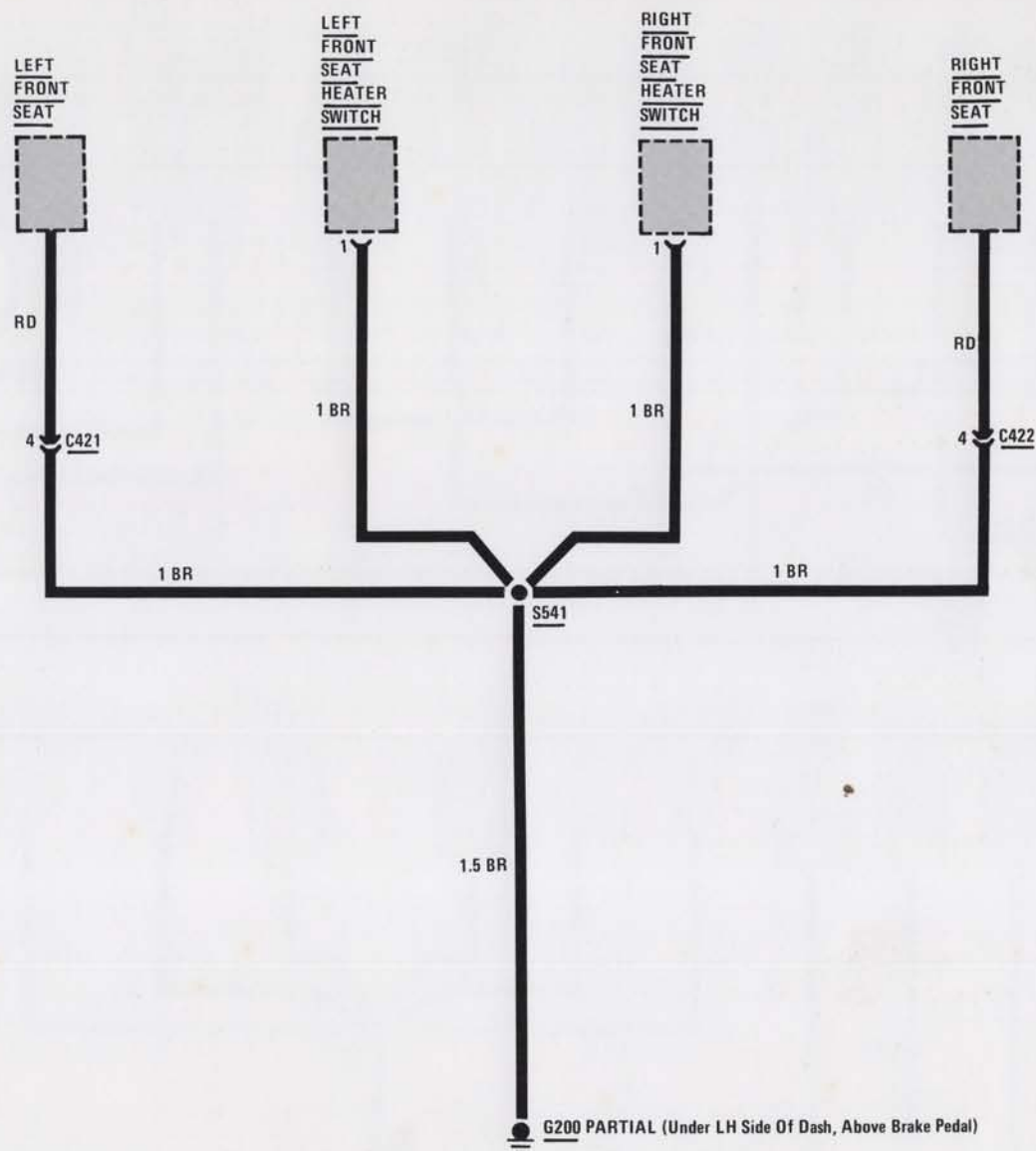
G200 PARTIAL (UNDER LH SIDE OF DASH ABOVE BRAKE PEDAL)

0670-14 POWER DISTRIBUTION

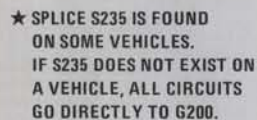
GROUND DISTRIBUTION: (G200 PARTIAL AND G201)



GROUND DISTRIBUTION: G200 (PARTIAL)



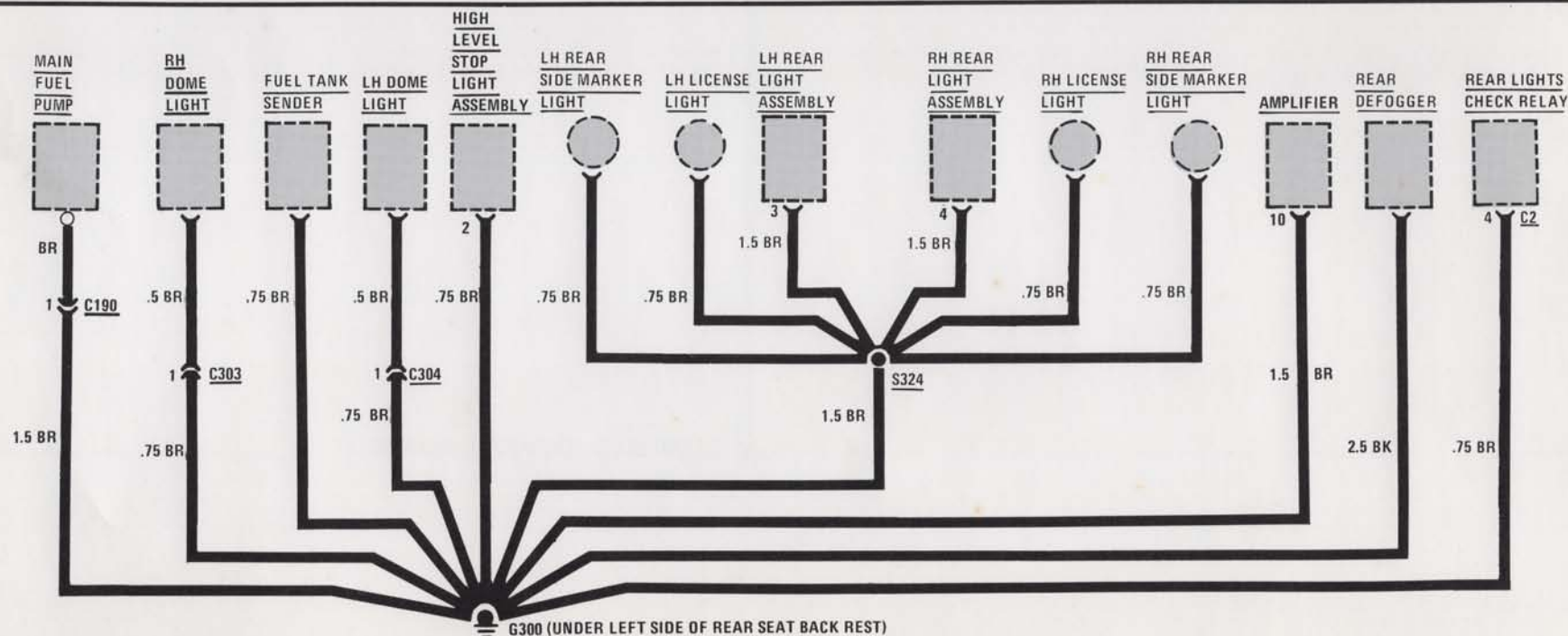
GROUND DISTRIBUTION: G200 (PARTIAL) AND G300



● 2 DOOR ONLY

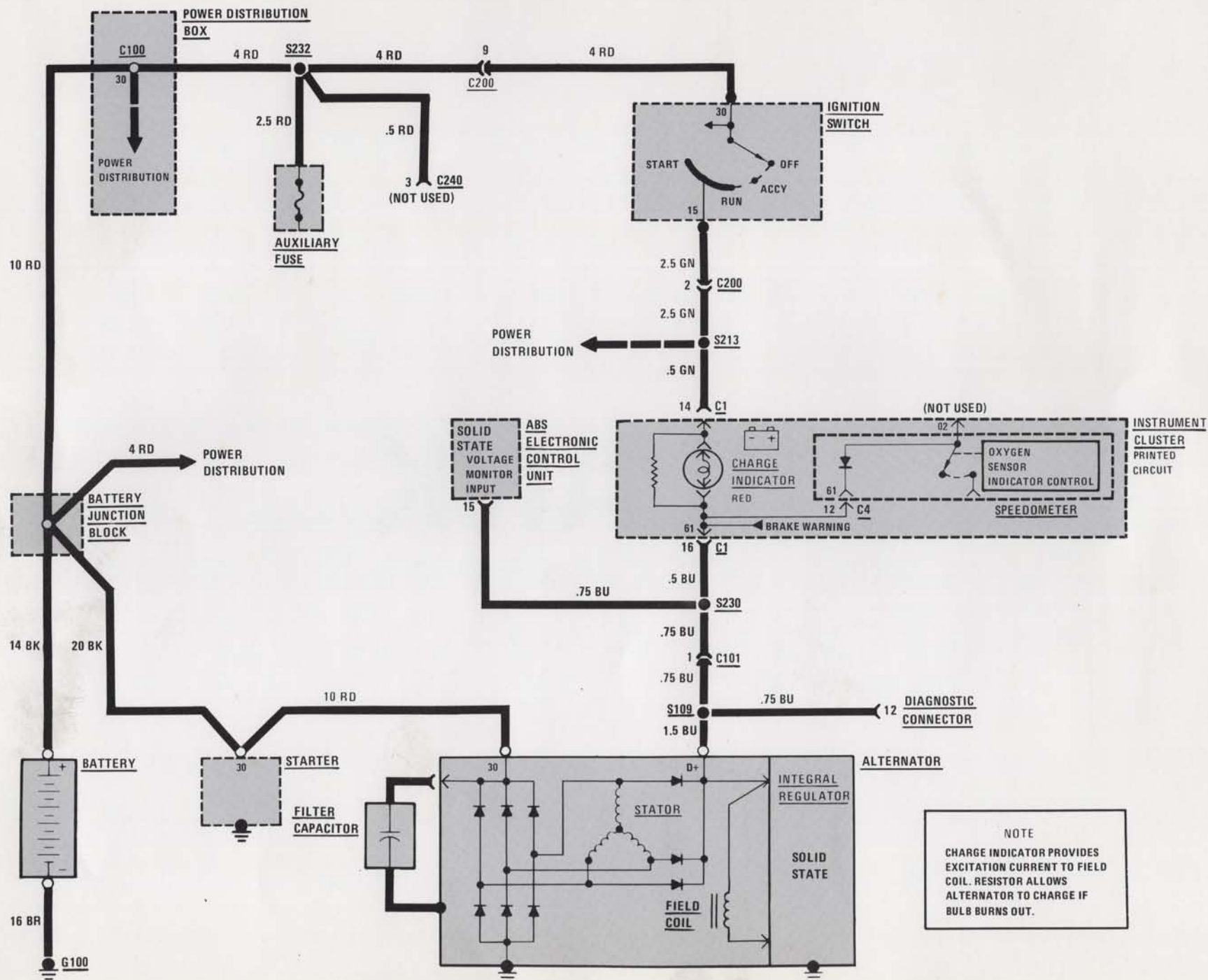
★ S235 PARTIAL

G200 PARTIAL (UNDER LH SIDE OF DASH, ABOVE BRAKE PEDAL)



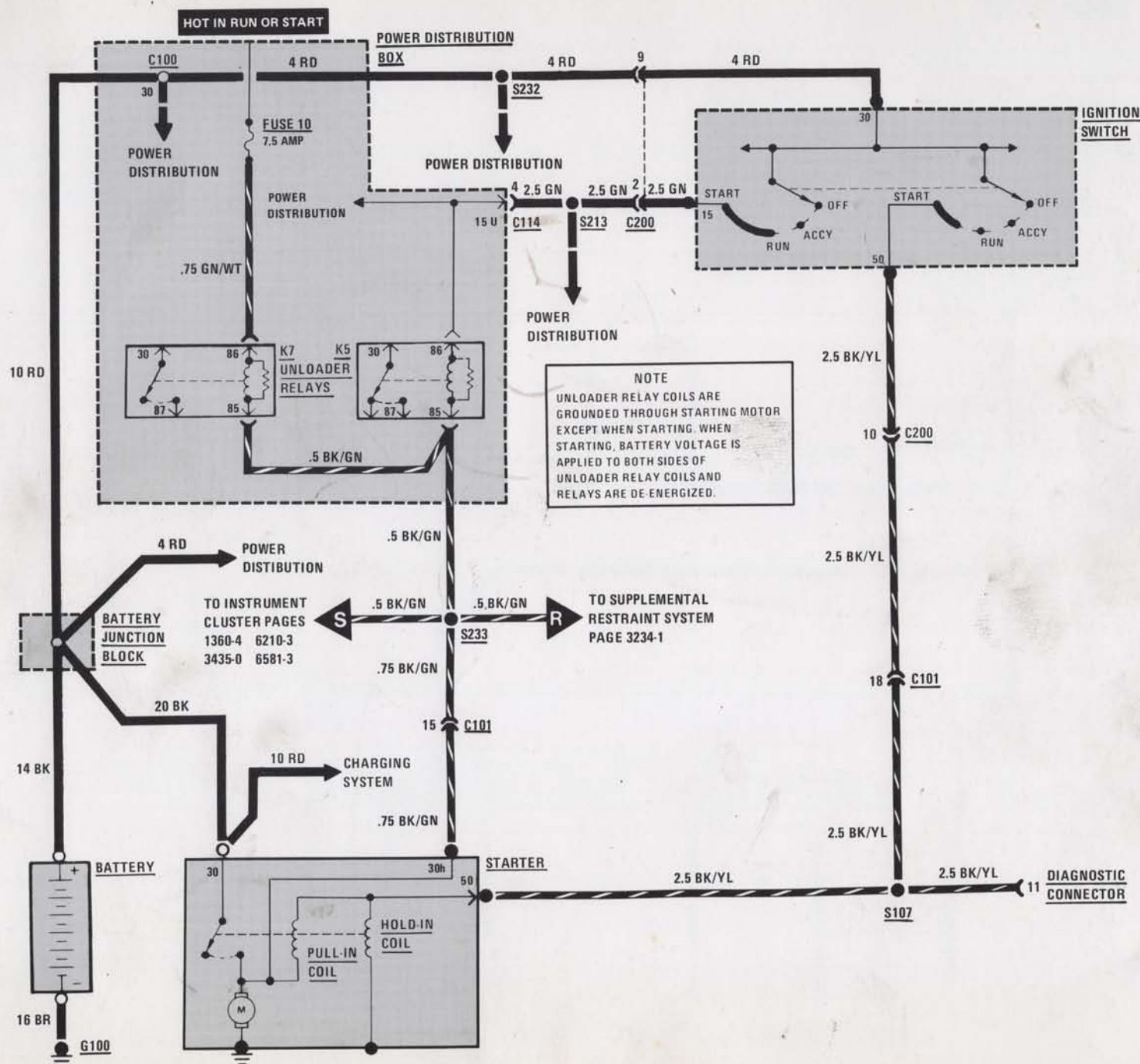
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1230-0 CHARGE

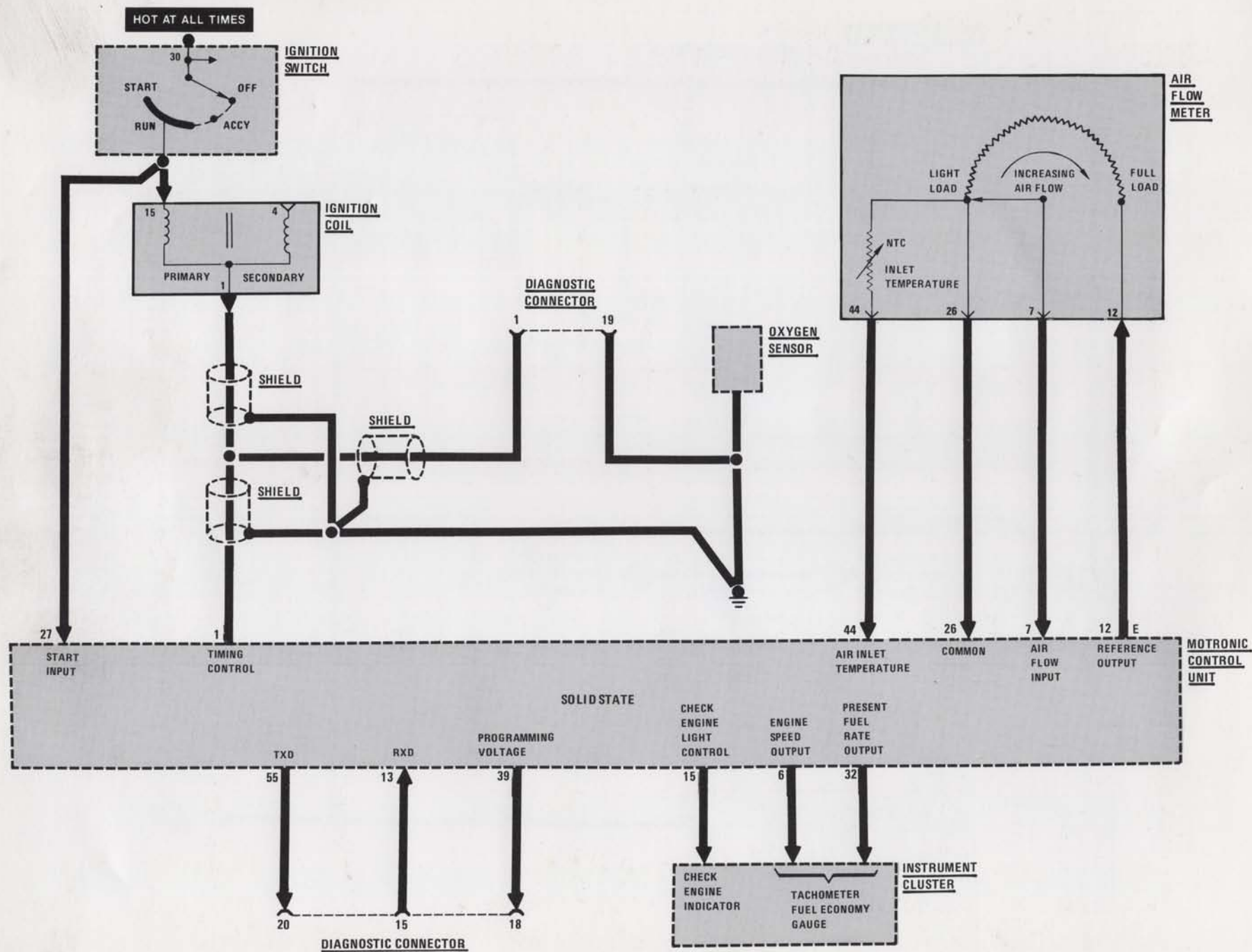


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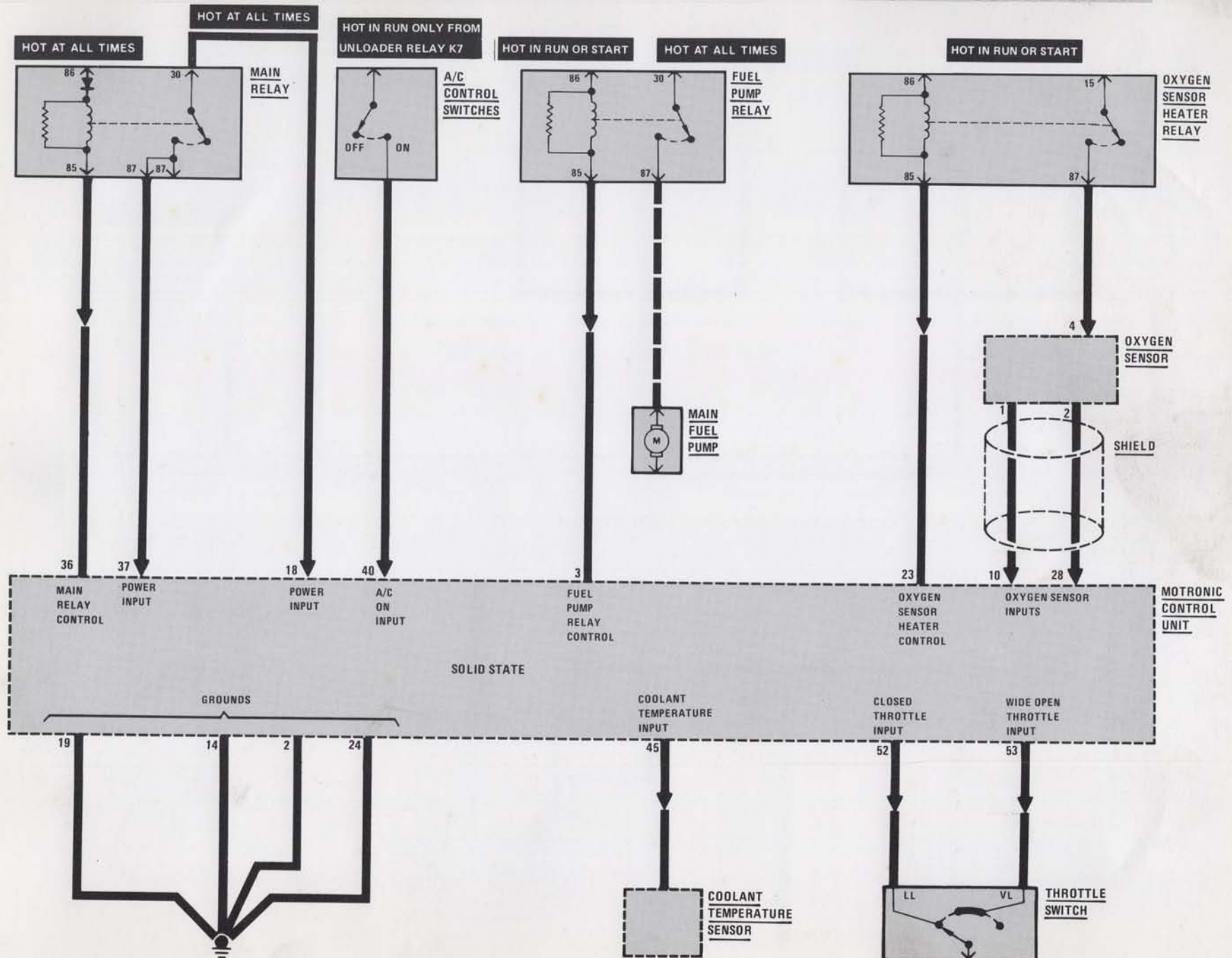




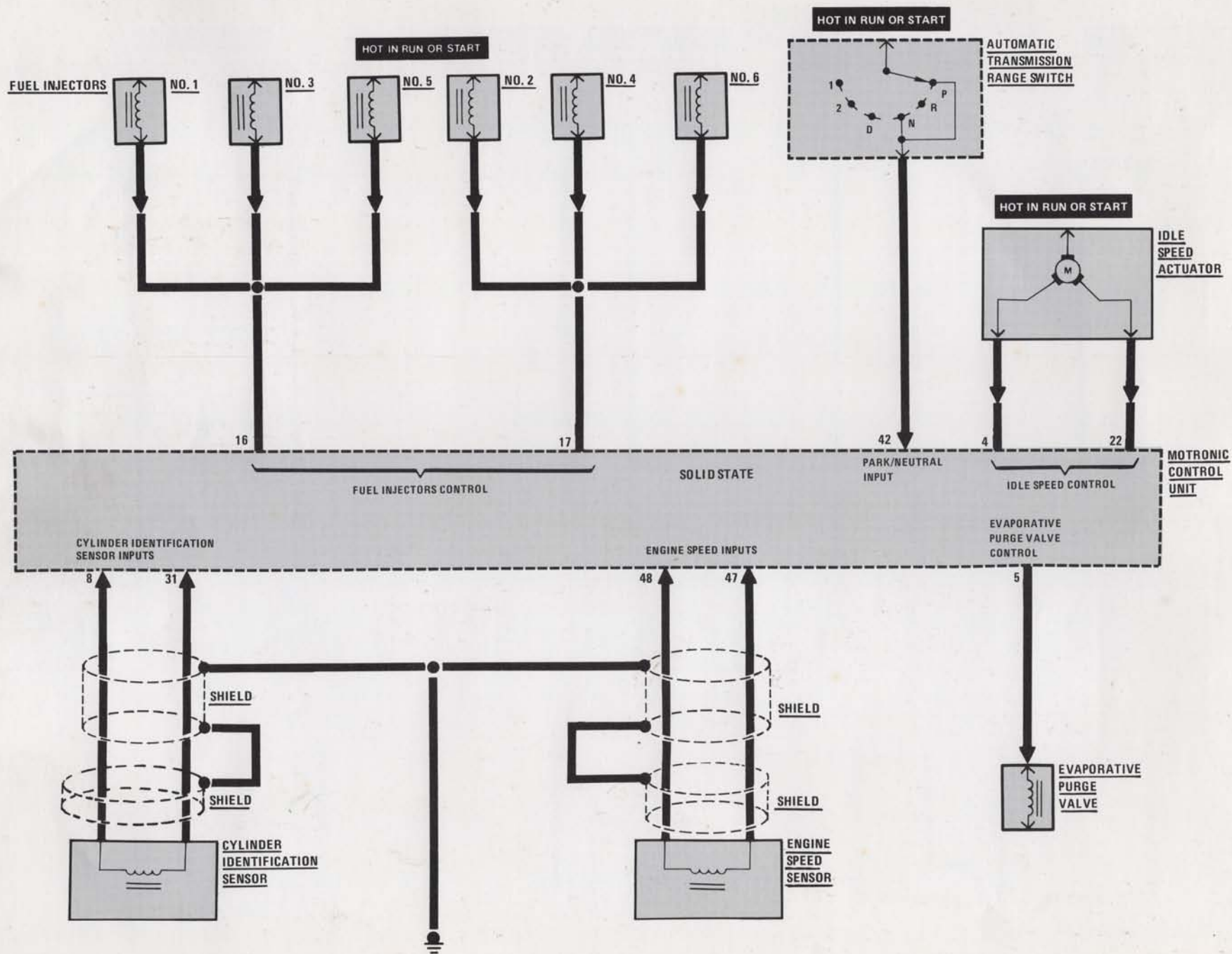
ENGINE BLOCK DIAGRAM

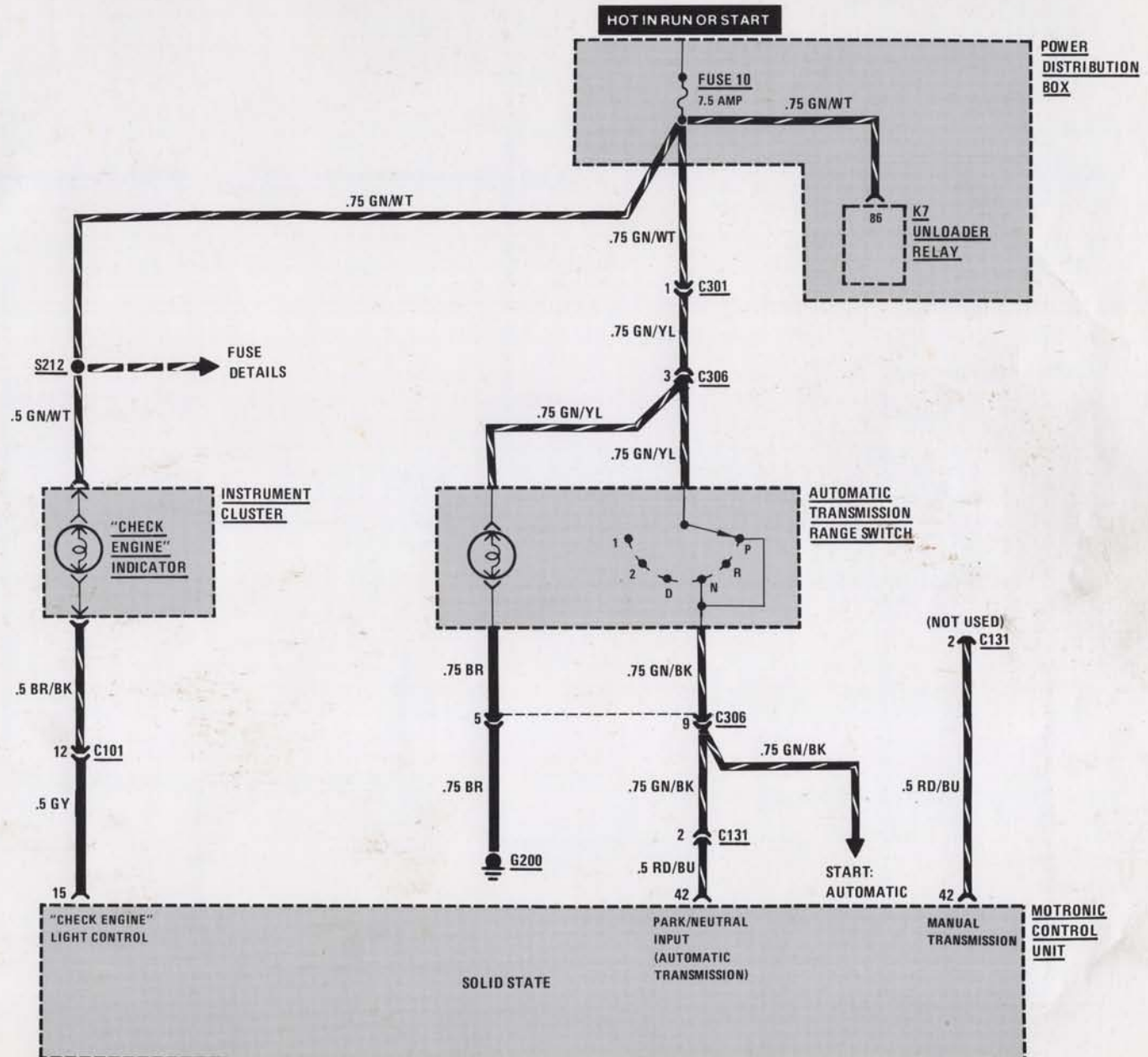


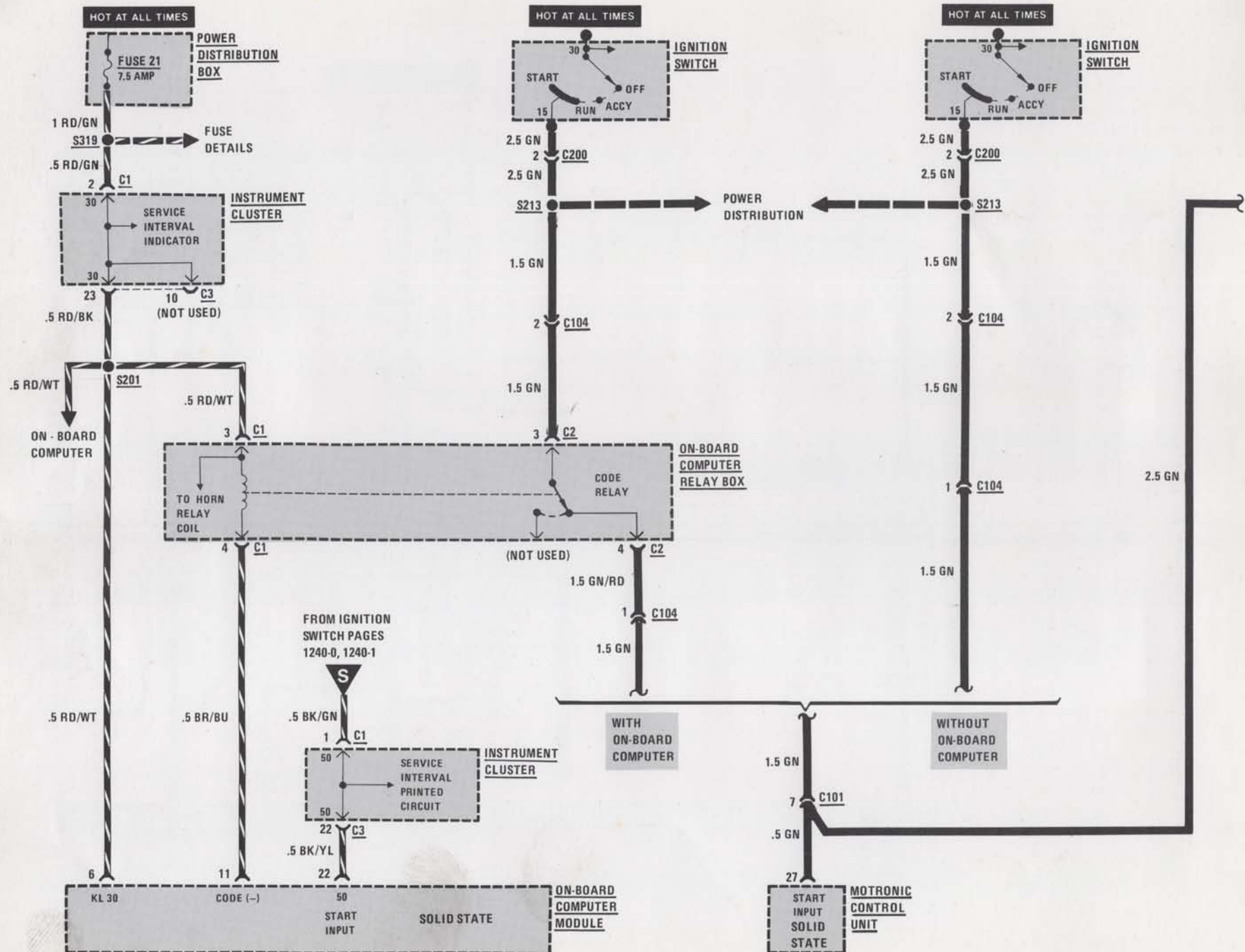
ENGINE BLOCK DIAGRAM

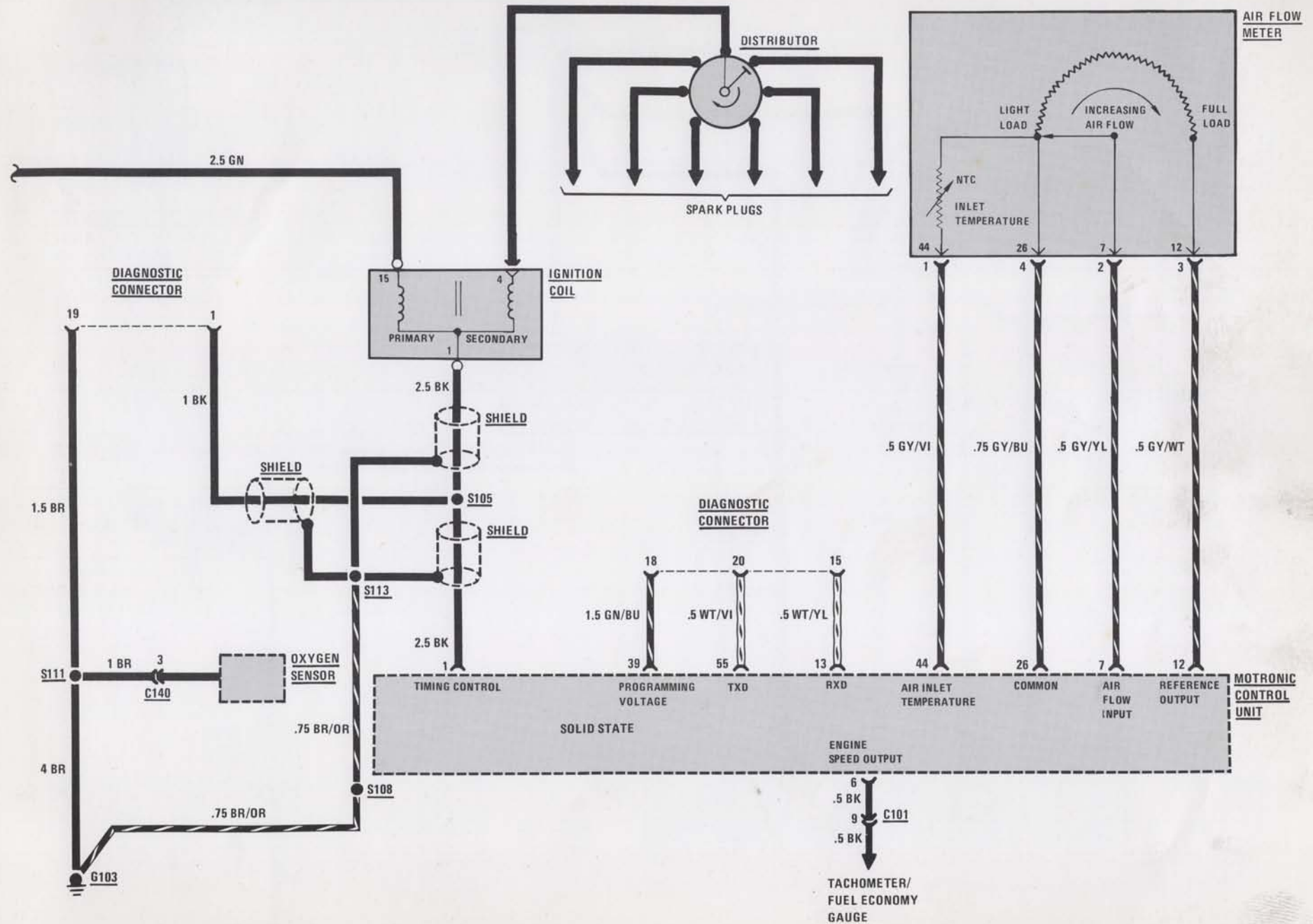


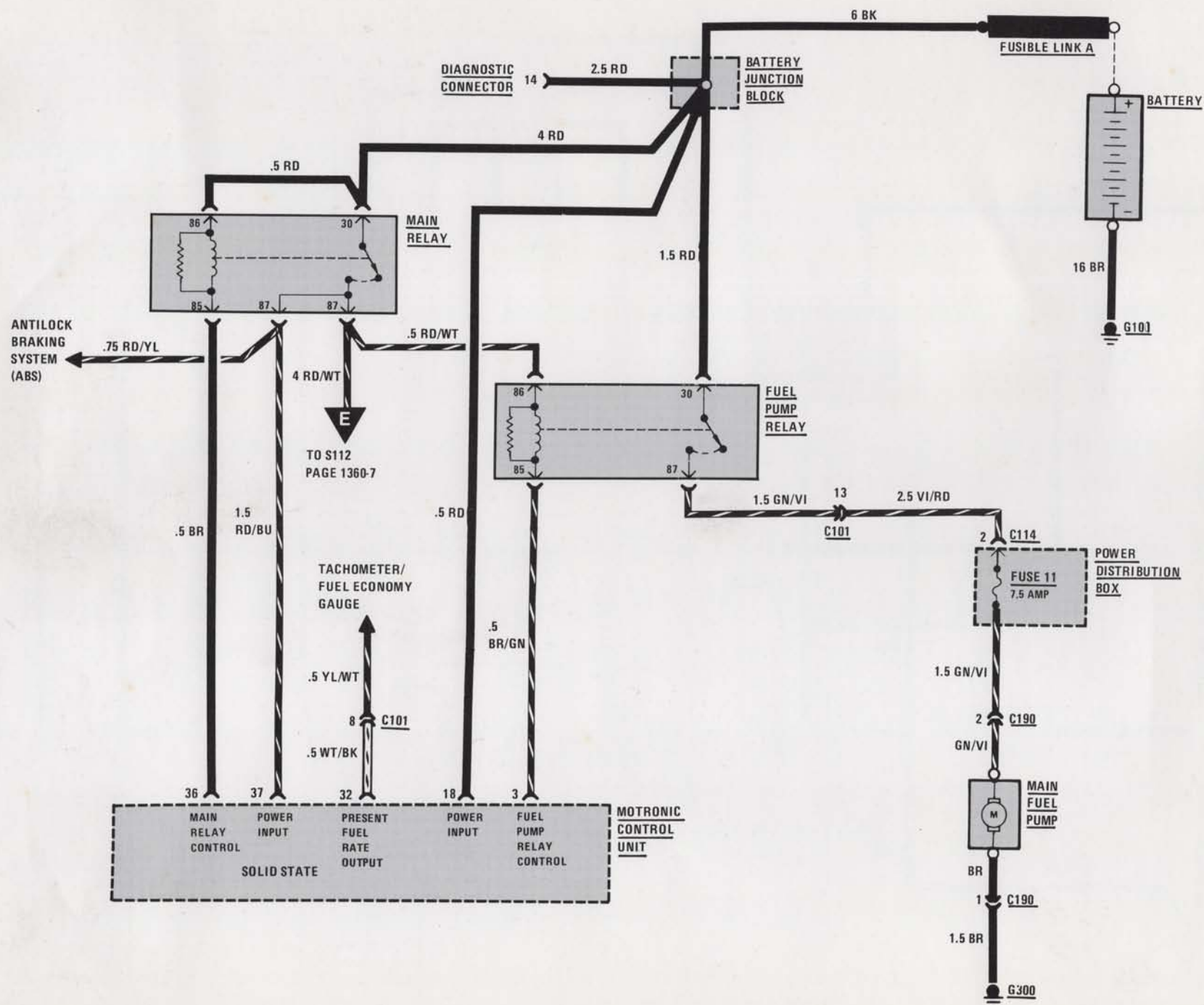
ENGINE BLOCK DIAGRAM

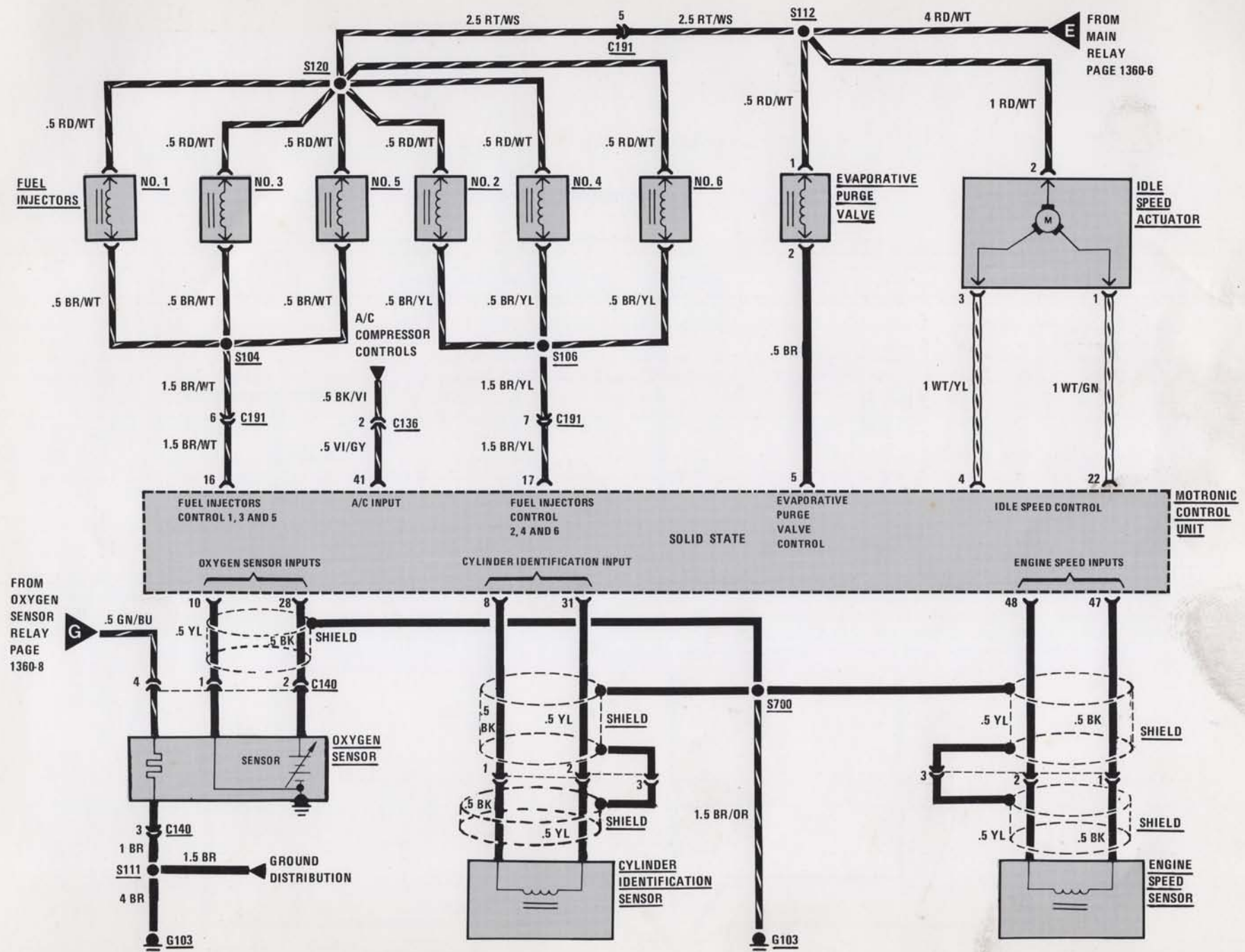


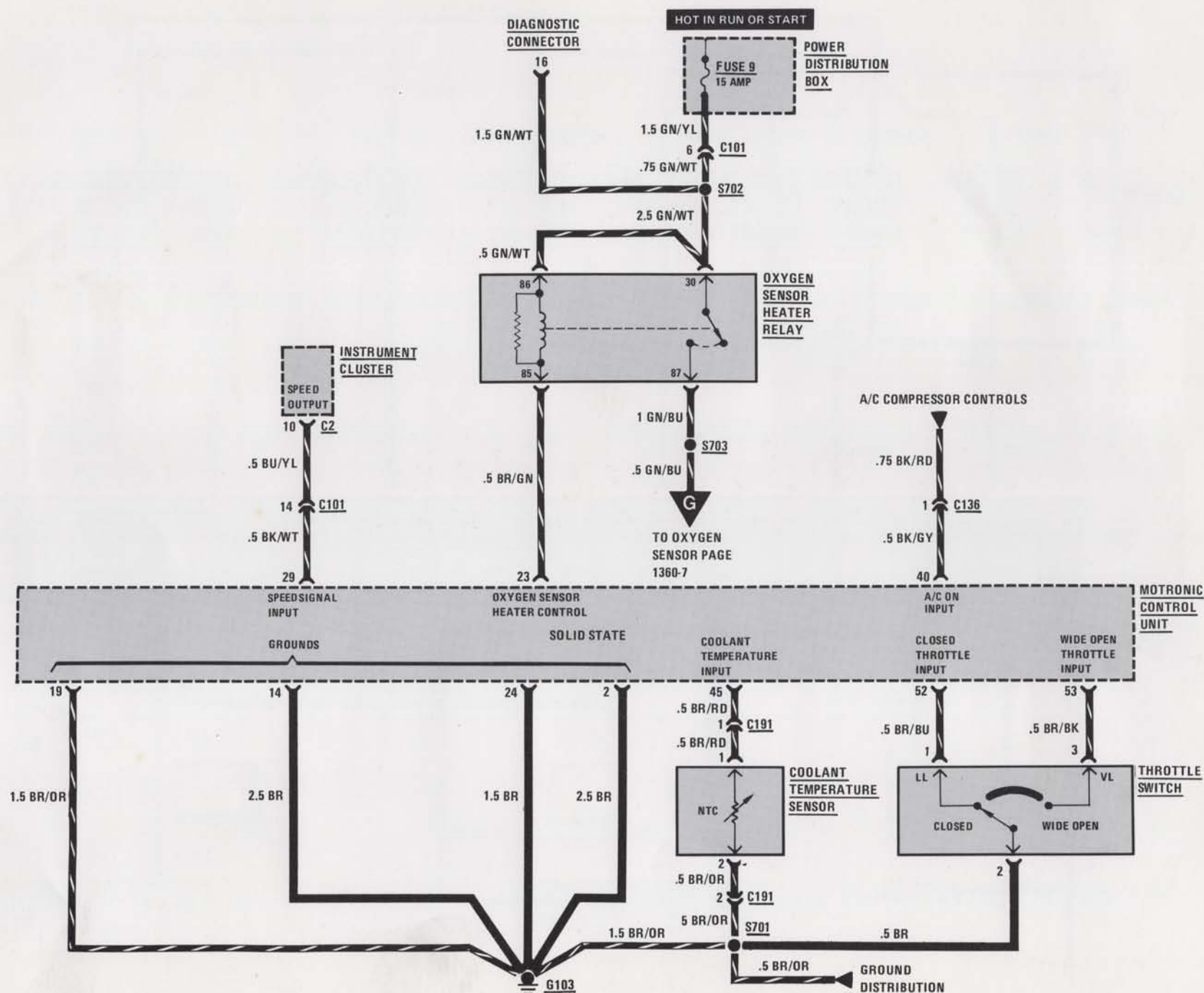




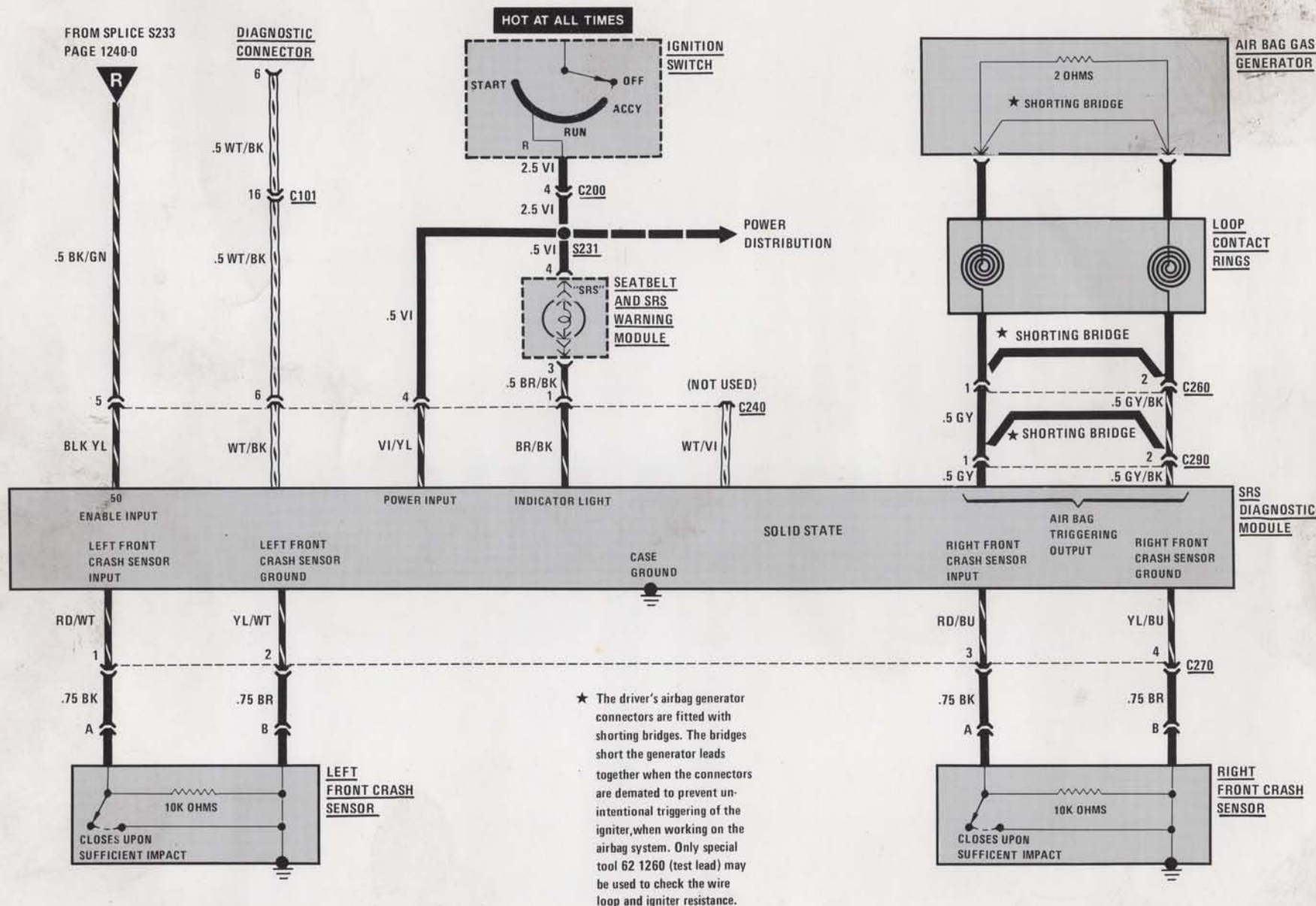






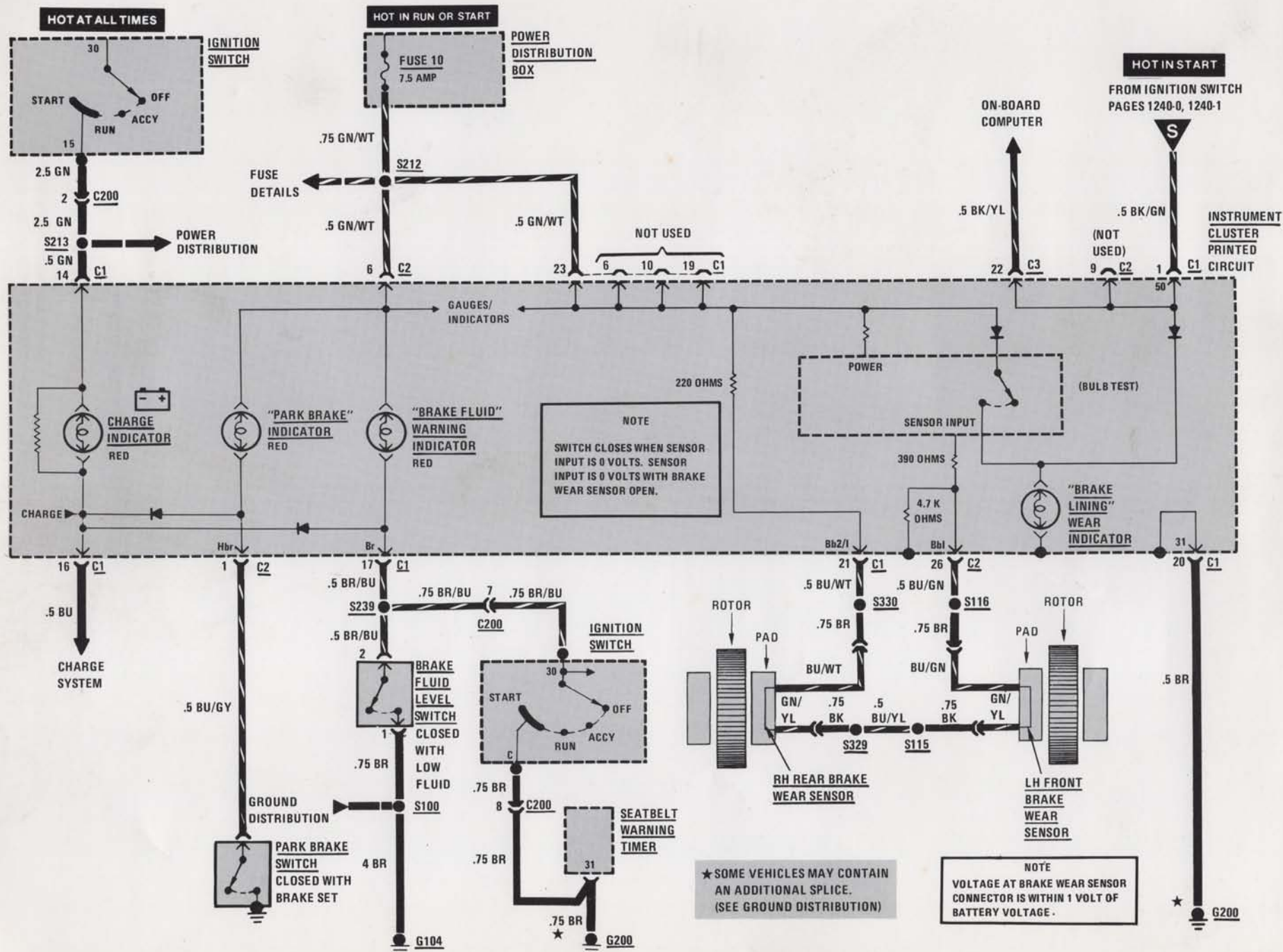


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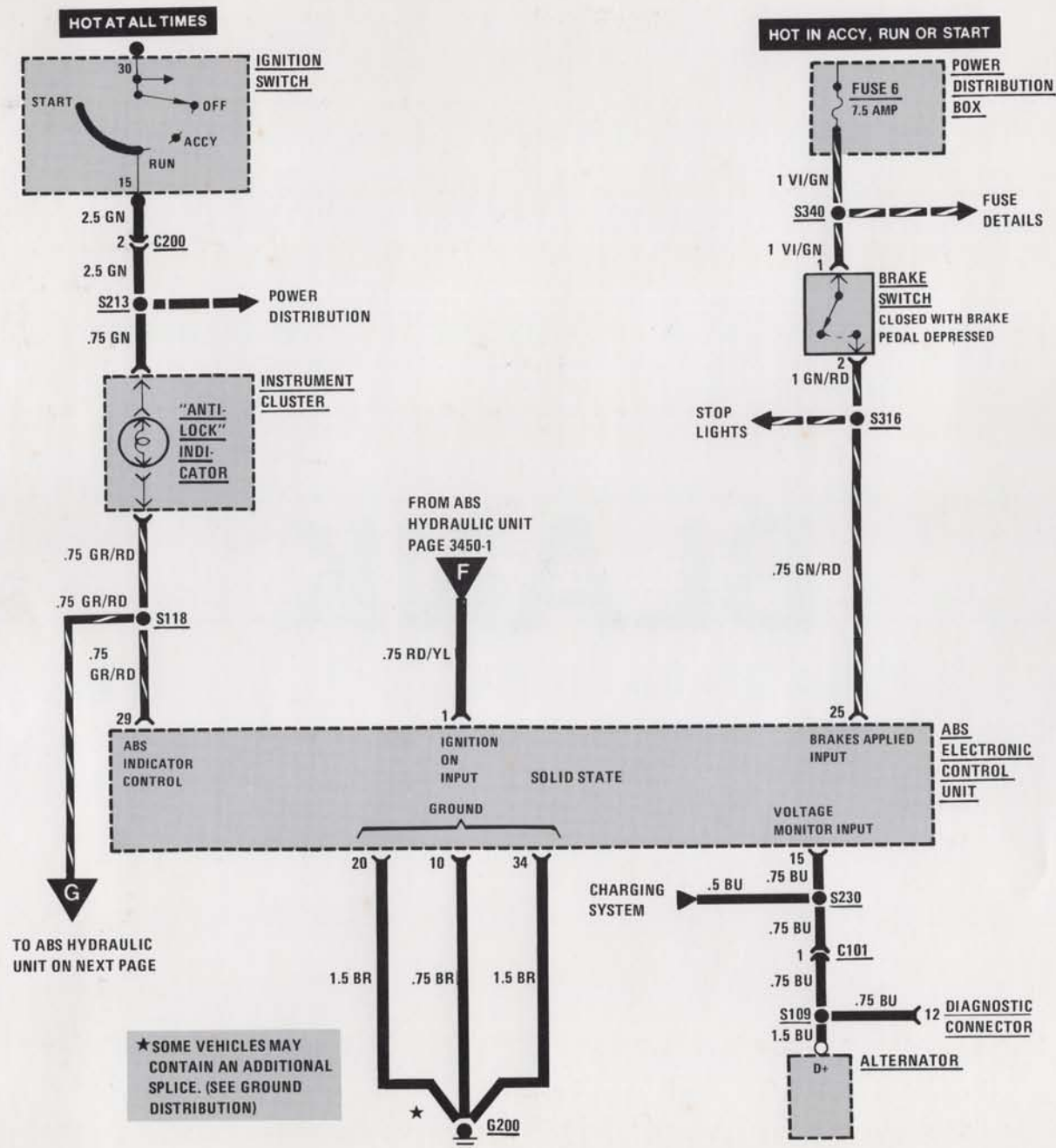
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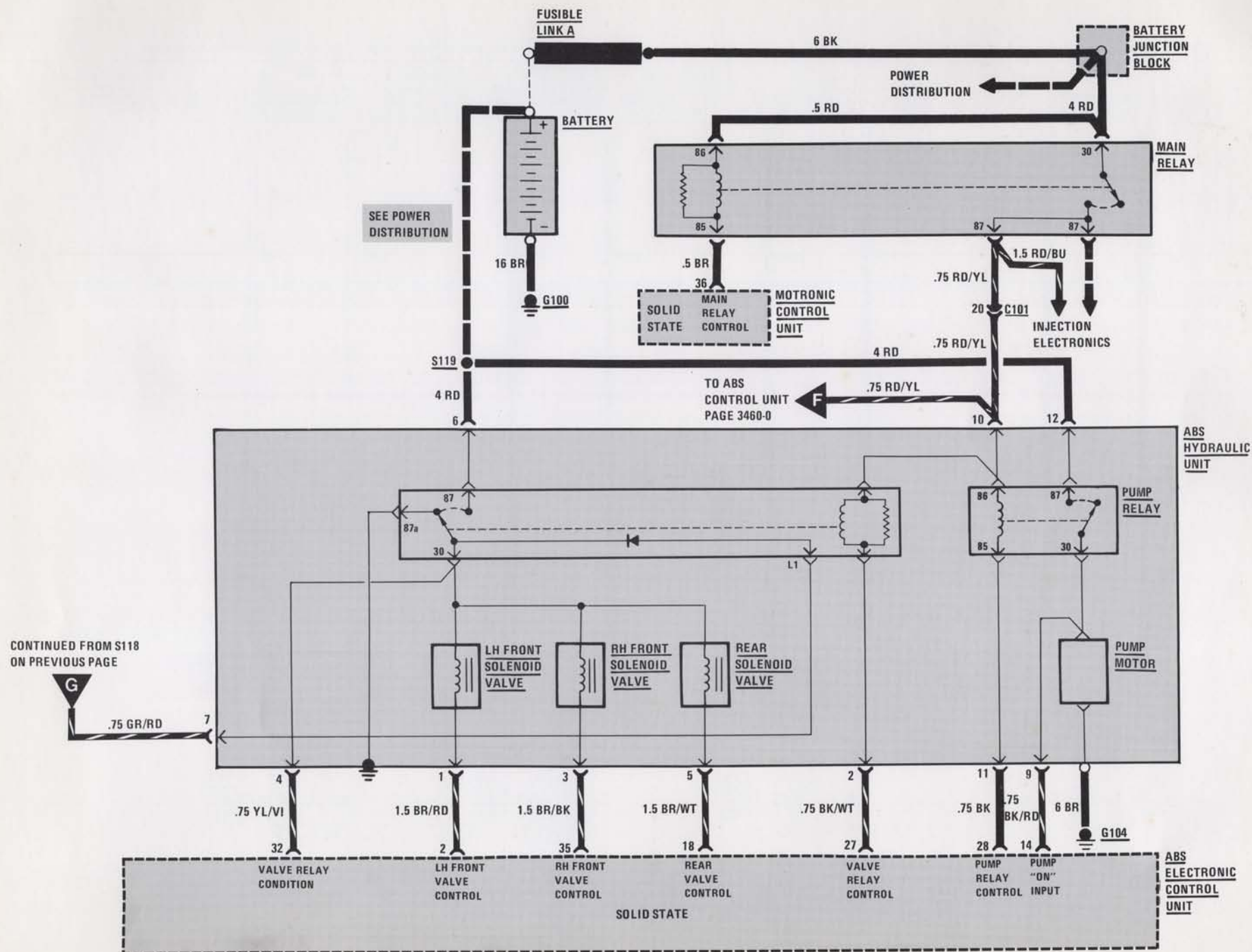
3435-0 BRAKE WARNING SYSTEM



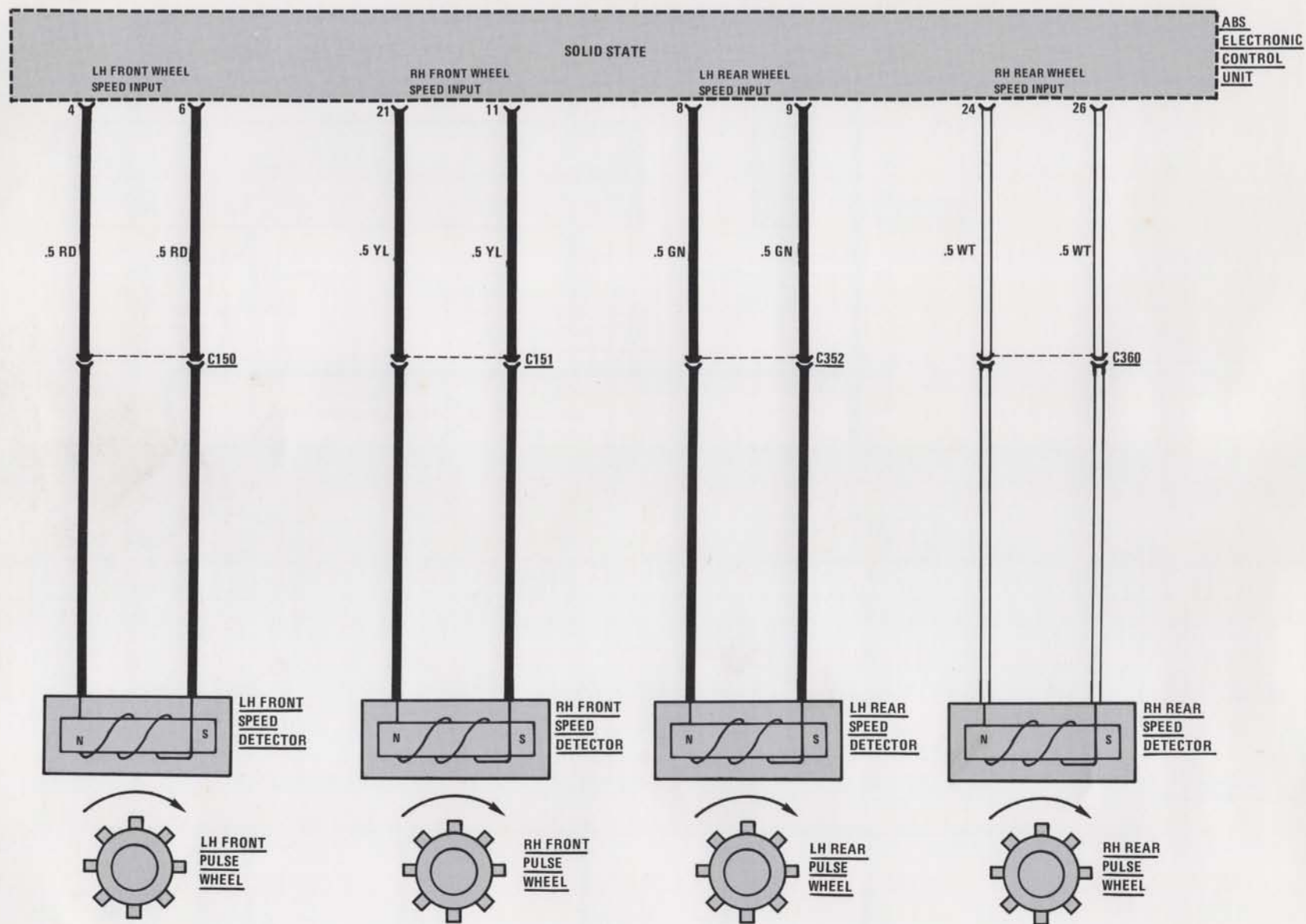
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3450-0 ANTILOCK BRAKING SYSTEM (ABS)

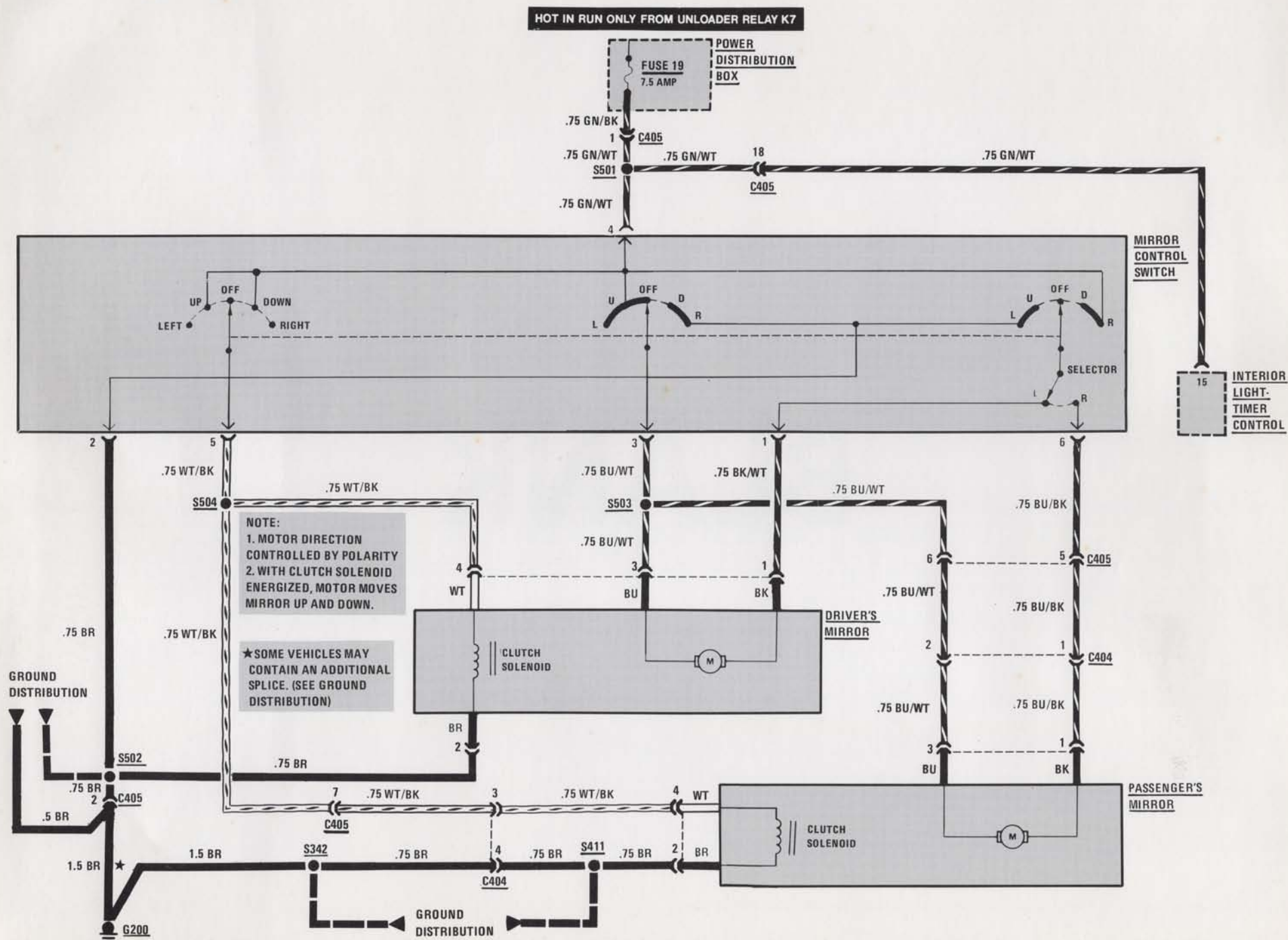




3450-2 ANTILOCK BRAKING SYSTEM (ABS)

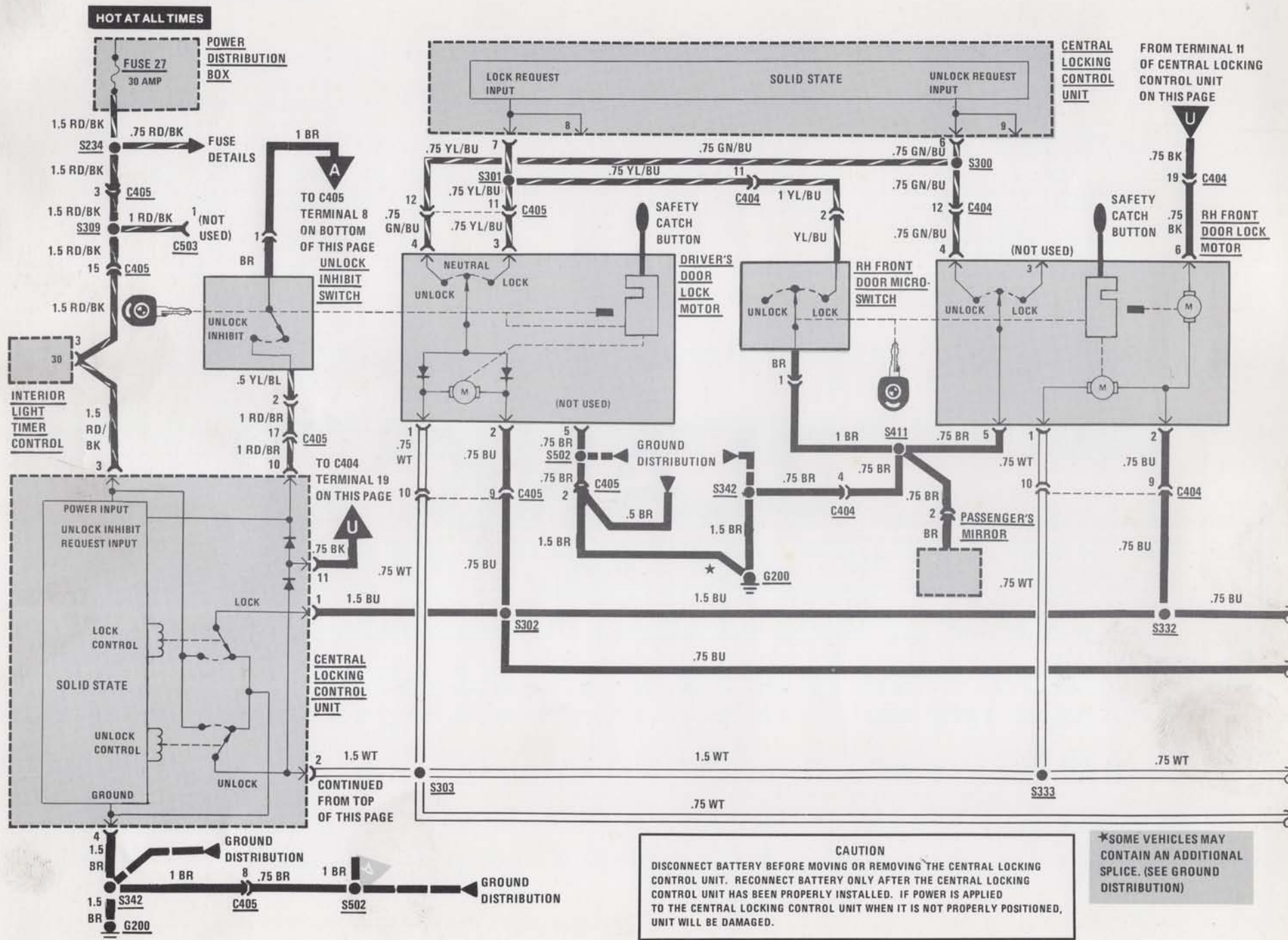


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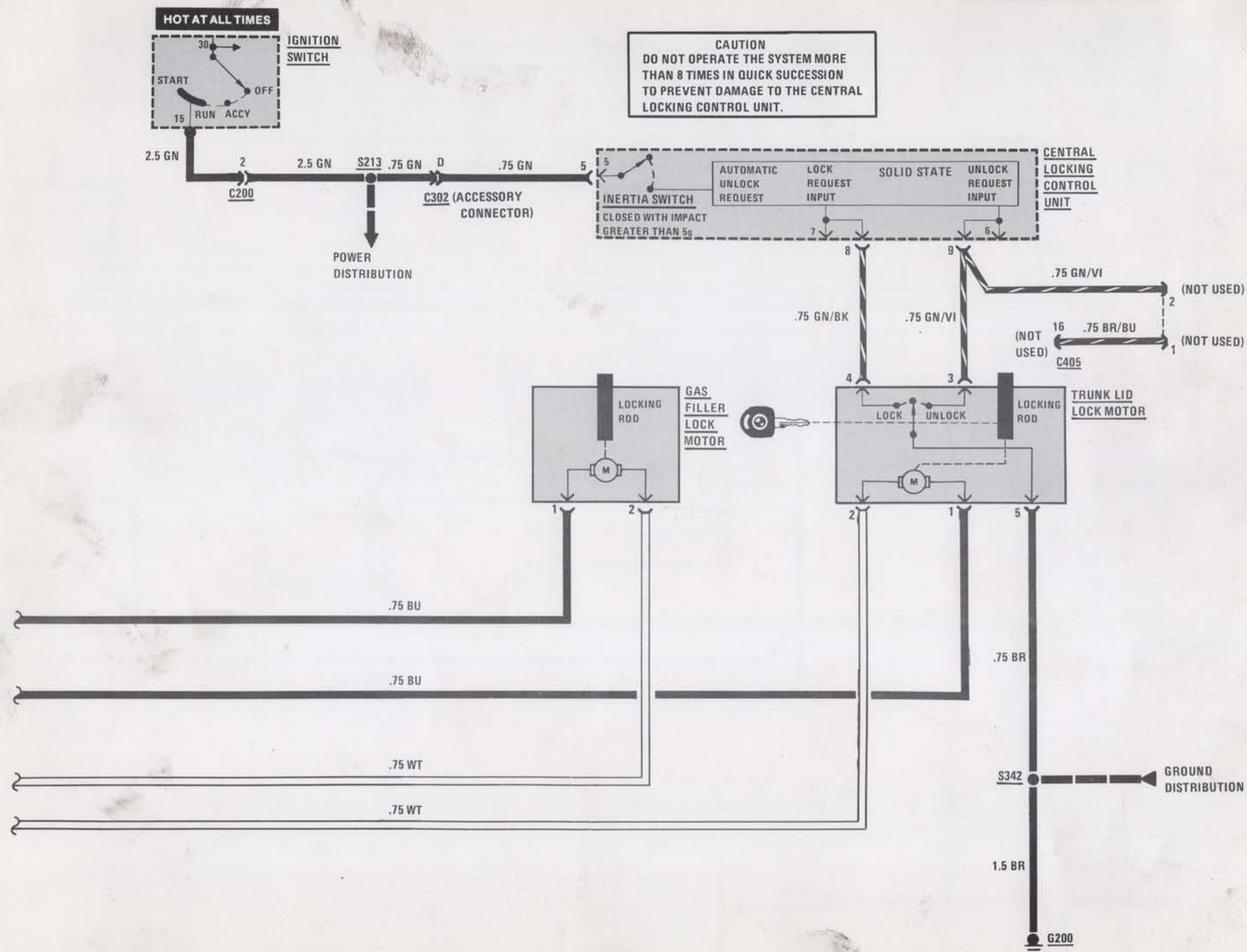


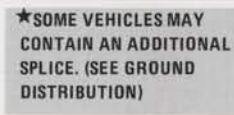
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2 DOOR (SELECT)

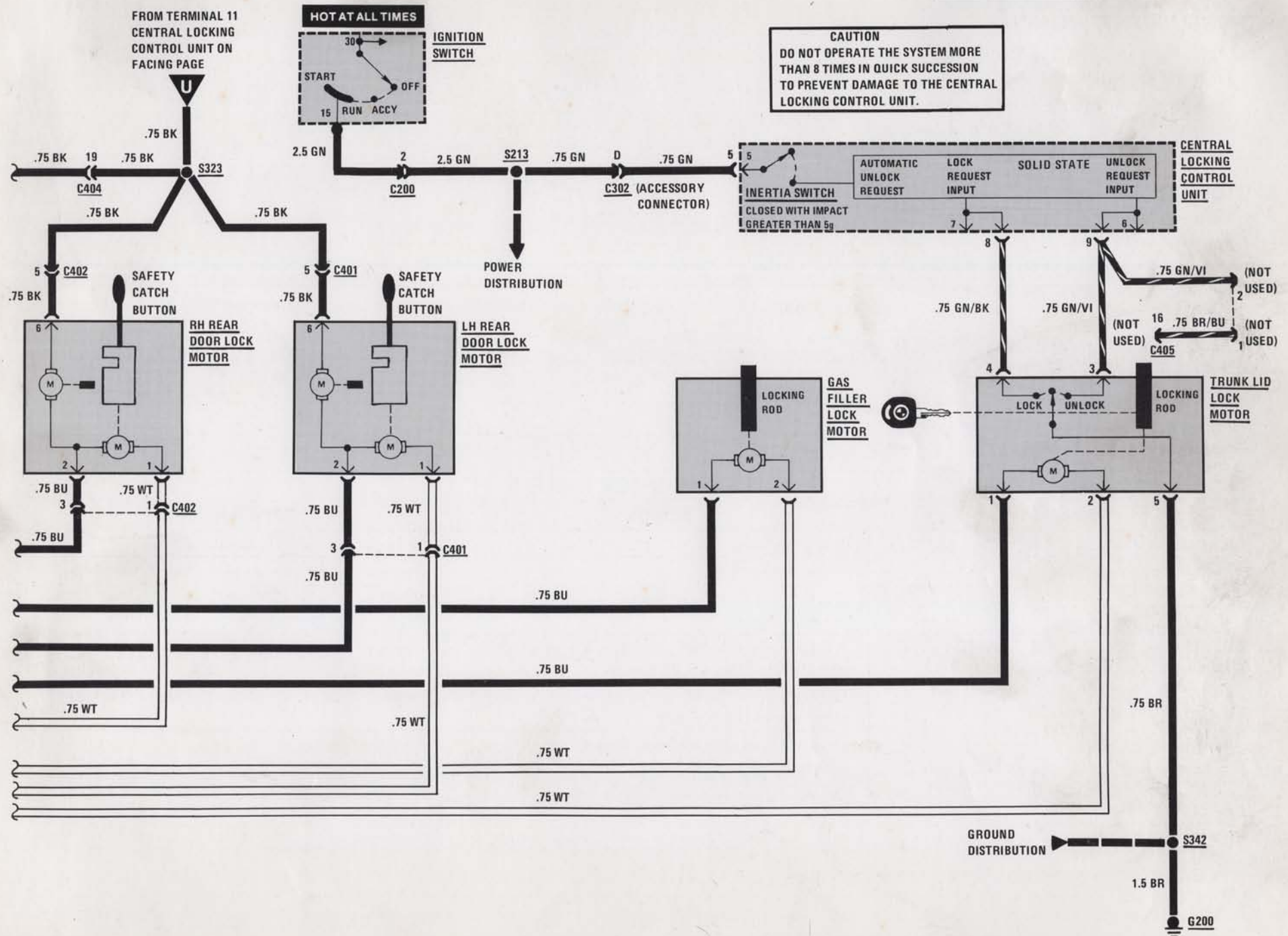


2 DOOR (CONTROL)





4 DOOR (CONTROL)



TROUBLESHOOTING HINTS

1. Check Fuse by operating the Interior Light Timer for either Dome Light.
2. If all locks stay in unlock inhibit, check the wires to terminal 10 of the Central Locking Control Unit for a short to ground.

SYSTEM CHECK

- Operate controls in sequence listed in the System Check Table.
- Refer to Repair Action for the Response received (tests follow the System Check Table).
- After any repair, repeat System Check to verify proper system operation.

NOTE: Before replacing any system component, check all connectors, splices, and wiring to that component.

SYSTEM CHECK TABLE

OPERATION	RESPONSE	REPAIR ACTION
1. Insert the key in the Driver's door and turn to LOCK	All doors lock	None, proceed to Operation 2
	Some doors lock	Repair/replace the suspect Door Lock Motor circuit
	No doors lock	Proceed to Operation 4
2. Turn the key to UNLOCK INHIBIT (clockwise until key is horizontal)	All doors double lock (Safety Catch Buttons cannot be pulled up by hand)	None, proceed to Operation 3
	Driver's door double locks and only some of the other doors double lock	Repair/replace the suspect Door Lock Motor
	Driver's door double locks but all the other doors do not double lock	Perform Test B
	Driver's door does not double lock	Mechanical problem, see BMW Workshop Manual

SYSTEM CHECK TABLE (CONT'D)

OPERATION	RESPONSE	REPAIR ACTION
3. Turn the key to UNLOCK	All doors unlock	None, proceed to Operation 4
	Some doors unlock	Repair/replace the suspect Door Lock Motor circuit
	No doors unlock	Proceed to Operation 5
4. Insert the key in the Passenger's door and turn to LOCK	All doors lock	If the doors did not lock in Operation 1, repair/replace the Driver's Door Lock Switch, otherwise proceed to Operation 5
	Some doors lock	Repair/replace the suspect Door Lock Motor circuit
	No doors lock	If all the doors locked in Operation 1, repair/replace the Right Front Door Microswitch. If the doors did not lock in Operation 1, perform Test A
5. Insert the key in the Passenger's door and turn to UNLOCK	All doors unlock	If all the doors did not unlock in Operation 3, repair/replace the Driver's Door Lock Switch, otherwise proceed to Operation 6
	Some doors unlock	Repair/replace the suspect Door Lock Motor
	No doors unlock	If all the doors unlocked in Operation 3, repair/replace the Passenger's Door Lock Switch. If the doors did not unlock in Operation 3, perform Test C
6. Get in the car and close and lock all doors Turn the Ignition Switch to RUN	Doors remain locked	None, proceed to Operation 7
	Doors unlock	Repair/replace the Central Locking Control Unit
7. Get out of the car Insert the key in the Driver's door and turn to LOCK Unlock each of the doors by pulling up the Safety Catch Buttons	All doors can be unlocked	None, proceed to Operation 8
	All doors remain secure	Disconnect the connector from the Central Locking Control Unit and check for a short to ground in the wires at terminal 11. • If short to ground is not present, replace the Central Locking Control Unit. • If short to ground is present isolate wiring from Door Lock Motors one at a time to find short

SYSTEM CHECK TABLE (CONT'D)

OPERATION	RESPONSE	REPAIR ACTION
8. Insert the key in the Trunk Cylinder Switch. Turn the key to LOCK	Trunk locks	None, proceed to Operation 9
	Trunk does not lock	If the doors lock, repair/replace the Trunk Lock Motor Circuit or Trunk Lock Motor If the doors do not lock, repair/replace the Trunk Switch Repair/replace the Central Locking Control Unit if the Trunk Switch Circuit is OK
9. Turn the key to UNLOCK	Trunk unlocks	None, proceed to Operation 10
	Trunk does not unlock	If the doors unlock, repair/replace the Trunk Lock Motor circuit or Trunk Lock Motor If the doors do not unlock, repair/replace the Trunk Switch Repair/replace the Central Locking Control Unit if the Trunk Switch Circuit is OK
10. Turn the key back to LOCK	Gas Filler locks	None, proceed to Operation 11
	Gas Filler does not lock	Repair/replace the Gas Filler Lock Motor circuit
11. Turn the key to UNLOCK	Gas Filler unlocks	None
	Gas Filler does not unlock	Repair/replace the Gas Filler Lock Motor circuit

- If all results are normal, the system is OK.

SYSTEM DIAGNOSIS

- Do the following tests when directed by the System Check Table.

A: CONTROL UNIT LOCK TEST (TABLE 1)

Measure: VOLTAGE At: CONTROL UNIT CONNECTOR (Connected)		
Measure Between	Correct Voltage	For Diagnosis
3 & Ground	Battery	See 1
3 & 4	Battery	See 2
- If the voltages are correct, proceed to Table 2. 1. Check the wire to terminal 3 for an open. 2. Check the wire from terminal 4 for an open to ground (see schematic).		

A: CONTROL UNIT LOCK TEST (TABLE 2)

Connect: A FUSED JUMPER At: CONTROL UNIT CONNECTOR (Connected)		
Jumper Between	Correct Result	For Diagnosis
7 & Ground	Doors lock	See 1
- If the result is correct, repair/replace the switches and related wiring (see schematic). 1. Proceed to Table 3.		

**A: CONTROL UNIT LOCK TEST
(TABLE 3)**

Connect: FUSED JUMPERS At: CONTROL UNIT CONNECTOR (Disconnected)		
Jumper Between	Correct Result	For Diagnosis
1 & 3 2 & 4	Doors lock	See 1
If the result is correct, replace the Central Locking Control Unit.		
1. Check the wire from terminal 1 to splice and the wire from terminal 3 to splice for opens (see schematic).		

B: UNLOCK INHIBIT TEST

Connect: A FUSED JUMPER At: CONTROL UNIT CONNECTOR (Connected)		
Jumper Between	Correct Result	For Diagnosis
10 & Ground	Doors double lock	See 1
If the result is correct, check the wires from terminal 10 to ground for opens (see schematic). Replace the Unlock Inhibit Switch if the wires and connections are OK.		
1. Check the wires from terminal 11 for opens (see schematic). Replace the Central Locking Control Unit, if the wires and connections are OK.		

C: CONTROL UNIT UNLOCK TEST

Connect: A FUSED JUMPER At: CONTROL UNIT CONNECTOR (Connected)		
Jumper Between	Correct Result	For Diagnosis
6 & Ground	Doors unlock	See 1
If the result is correct, repair/replace the switches and related wiring (see schematic).		
1. Replace the Central Locking Control Unit.		

CIRCUIT DESCRIPTION

The Central Locking System is controlled by the Central Locking Control Unit. This unit senses when a lock switch is moved by a key, and sends the appropriate signal to drive the Motors. The Central Locking Control Unit controls the Door Locks, Gas Filler Lock and Trunk Lock. The unit also has an Inertia Switch which closes on impact greater than 5g. If in RUN or START the locks are then unlocked.

Lock

When the Key is inserted into a lock and turned clockwise, the Lock switch moves to LOCK and grounds terminal 7 of the Central Locking Control Unit. The unit then activates the Lock Relay and applies voltage from Fuse 27 to the Lock Motor, which is grounded through the Central Locking Control Unit terminal 2. The Lock Motor then pulls the lock down. The door locks also control the Trunk Lock and Gas Filler Lock.

Unlock

When the key is turned counterclockwise, terminal 6 of the Central Locking Control Unit is grounded through the Lock Switch. The Central Locking Control Unit then activates the Unlock Relay and applies voltage from Fuse 27, through terminal 2 to the Lock Motor. The motor is grounded through the Central Locking Control Unit terminal 1. The polarity is reversed and the motor pushes the lock up.

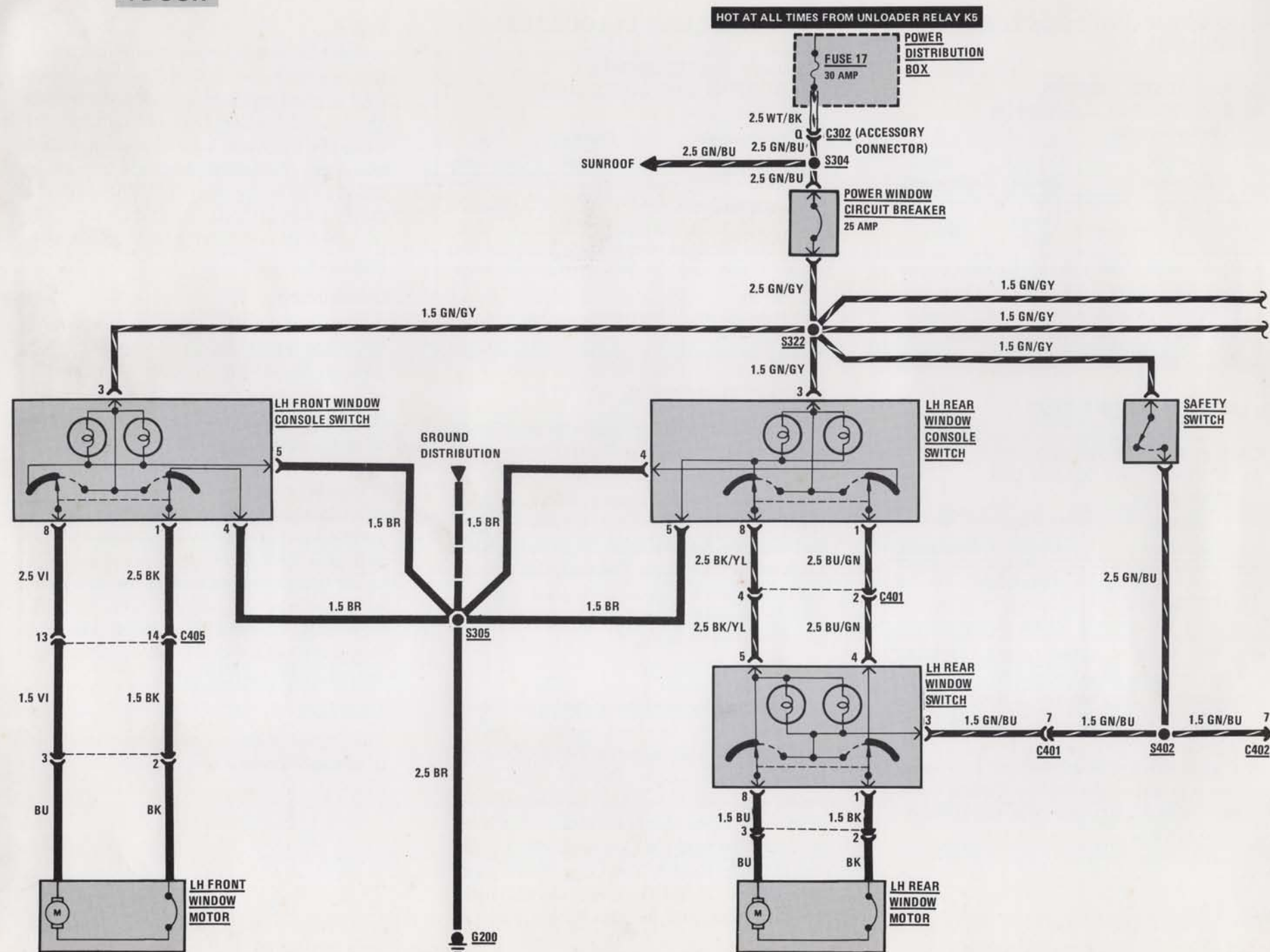
Unlock Inhibit

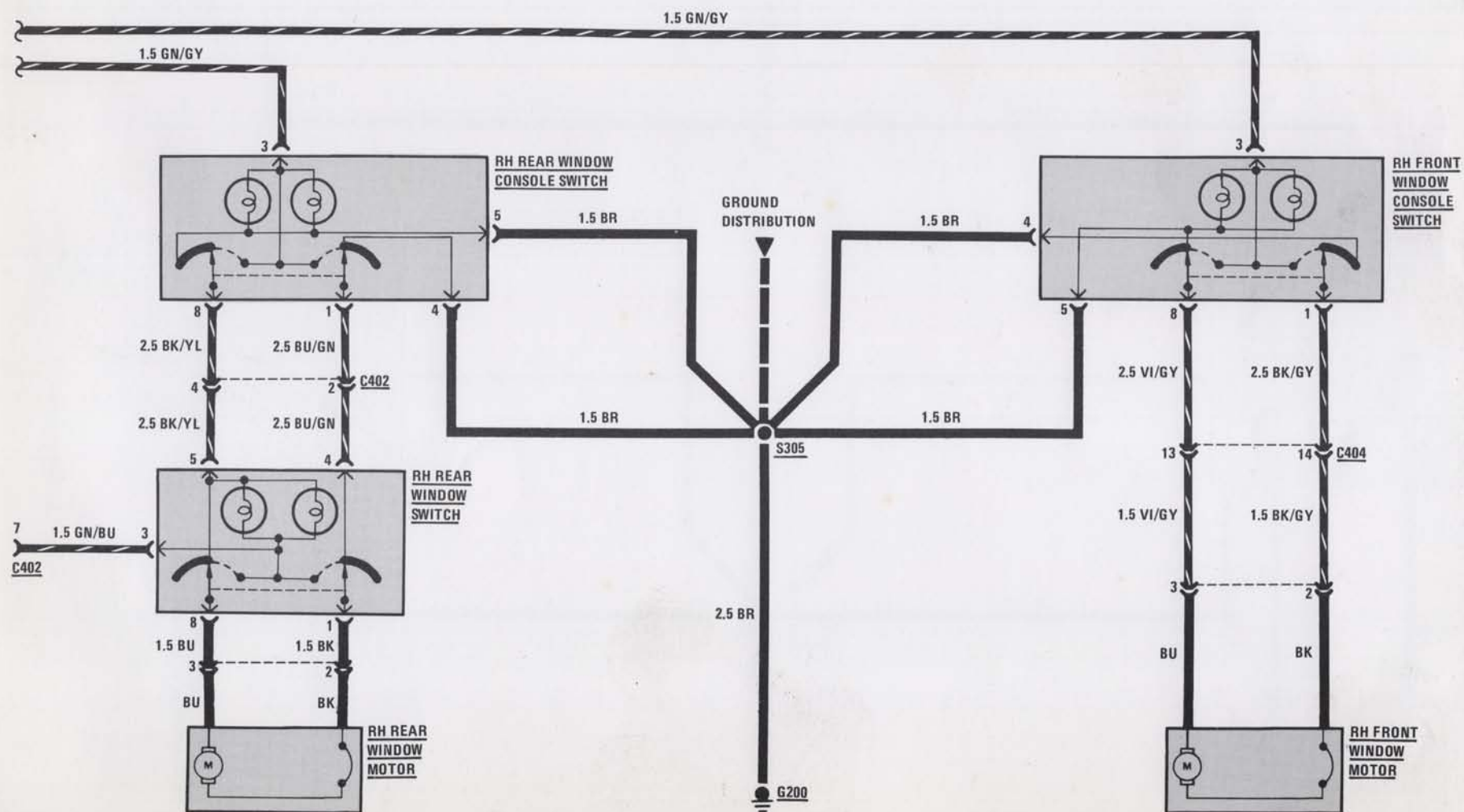
When the key is inserted into the Driver's Lock and turned clockwise past the LOCK position, the Unlock Inhibit mechanism is engaged. This mechanically inserts a bar into the driver's lock and prevents unlocking through use of the Safety Catch Button. When in the Unlock Inhibit position, ground is applied to the Unlock Inhibit motors in the other lock units. The Central Locking Control Unit is grounded at terminal 10 and then activates the Lock Relay. Voltage is applied to the Unlock Inhibit motors through terminal 1. They are now activated and engage the other Unlock Inhibit mechanisms. The direction of the motors is reversed when the doors are unlocked (see Unlock).

Trunk Lock

The Trunk Lock operates in a manner similar to the Door Locks.

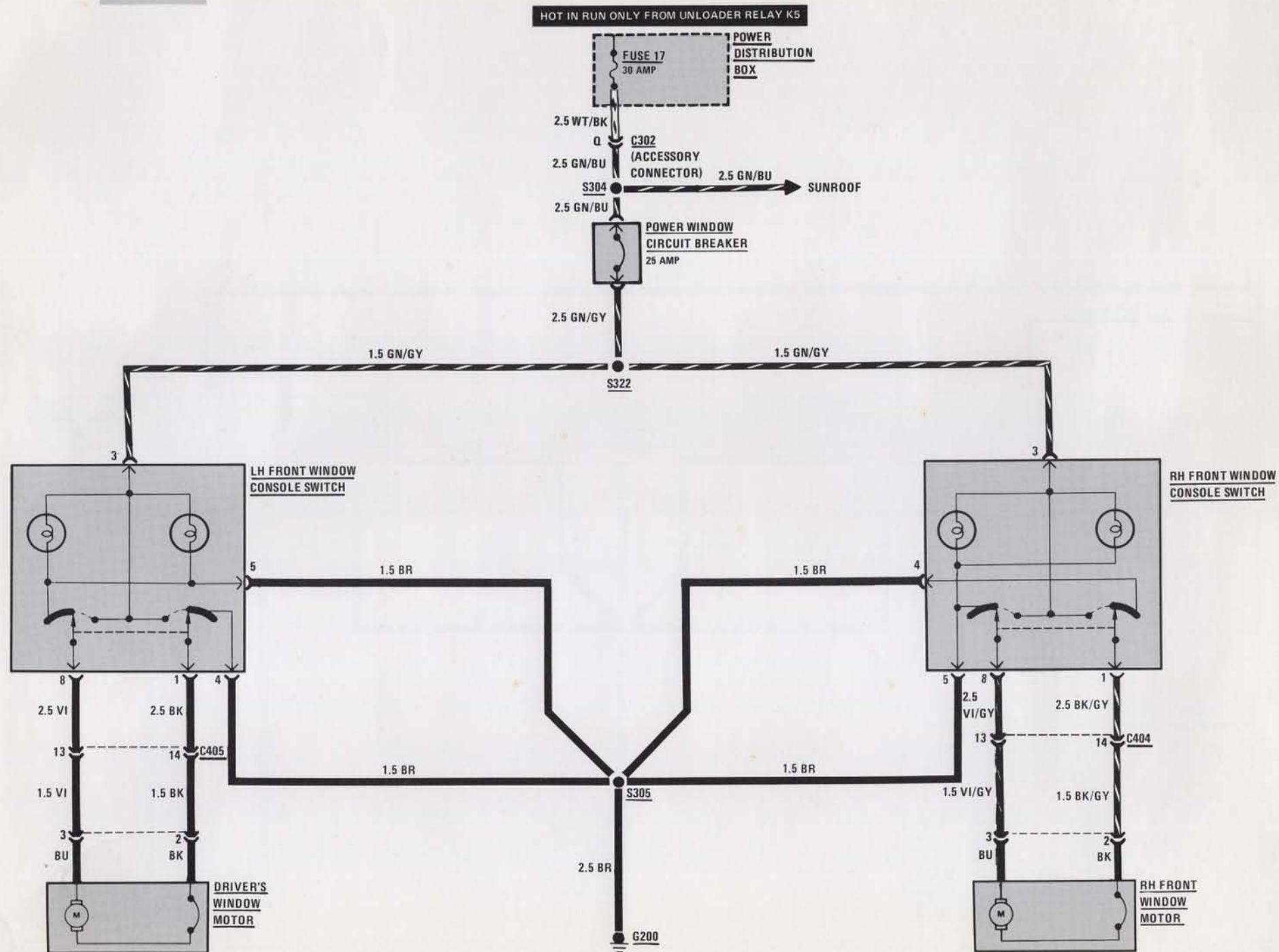
4 DOOR





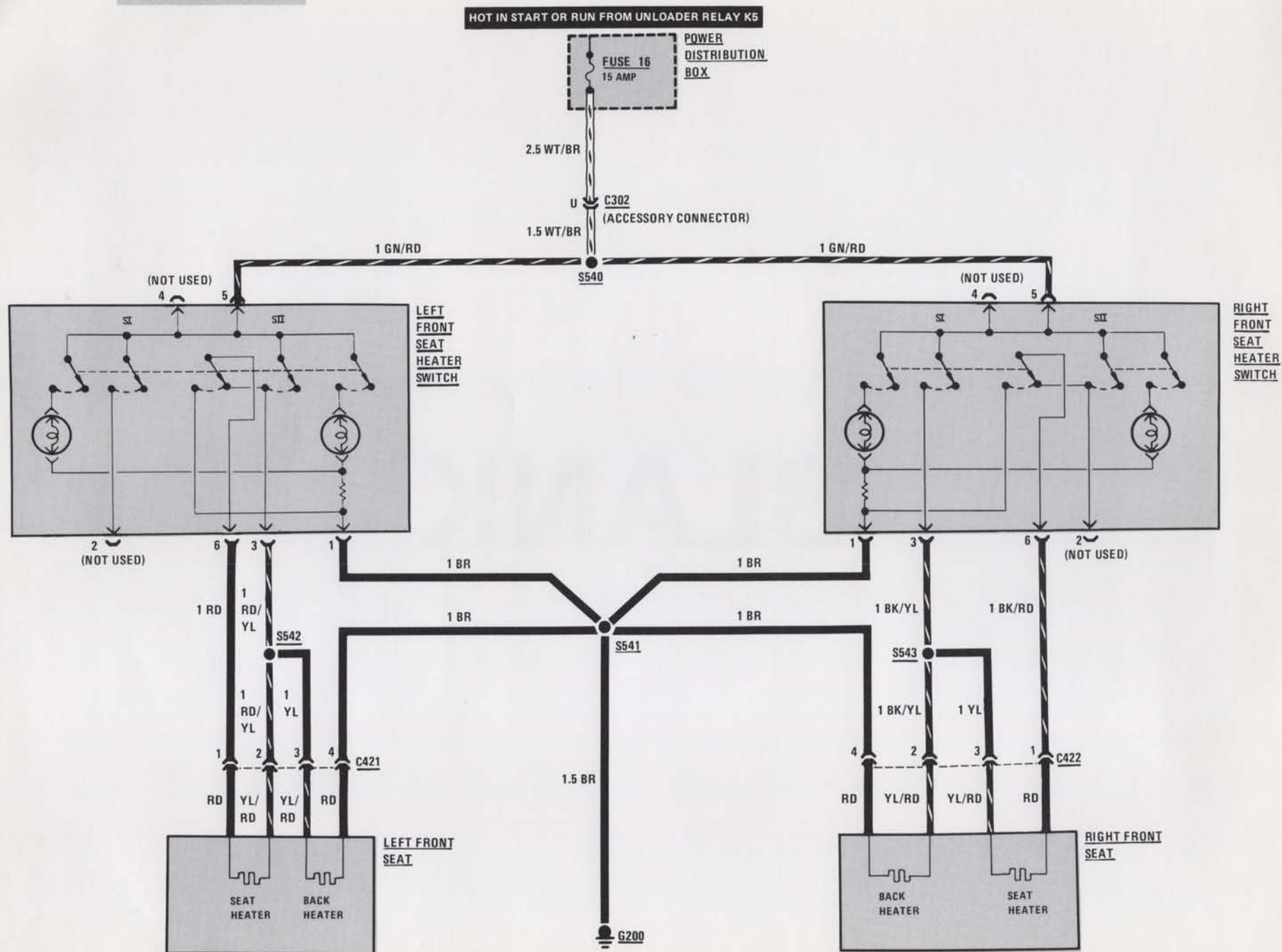
5133-2 POWER WINDOWS

2 DOOR

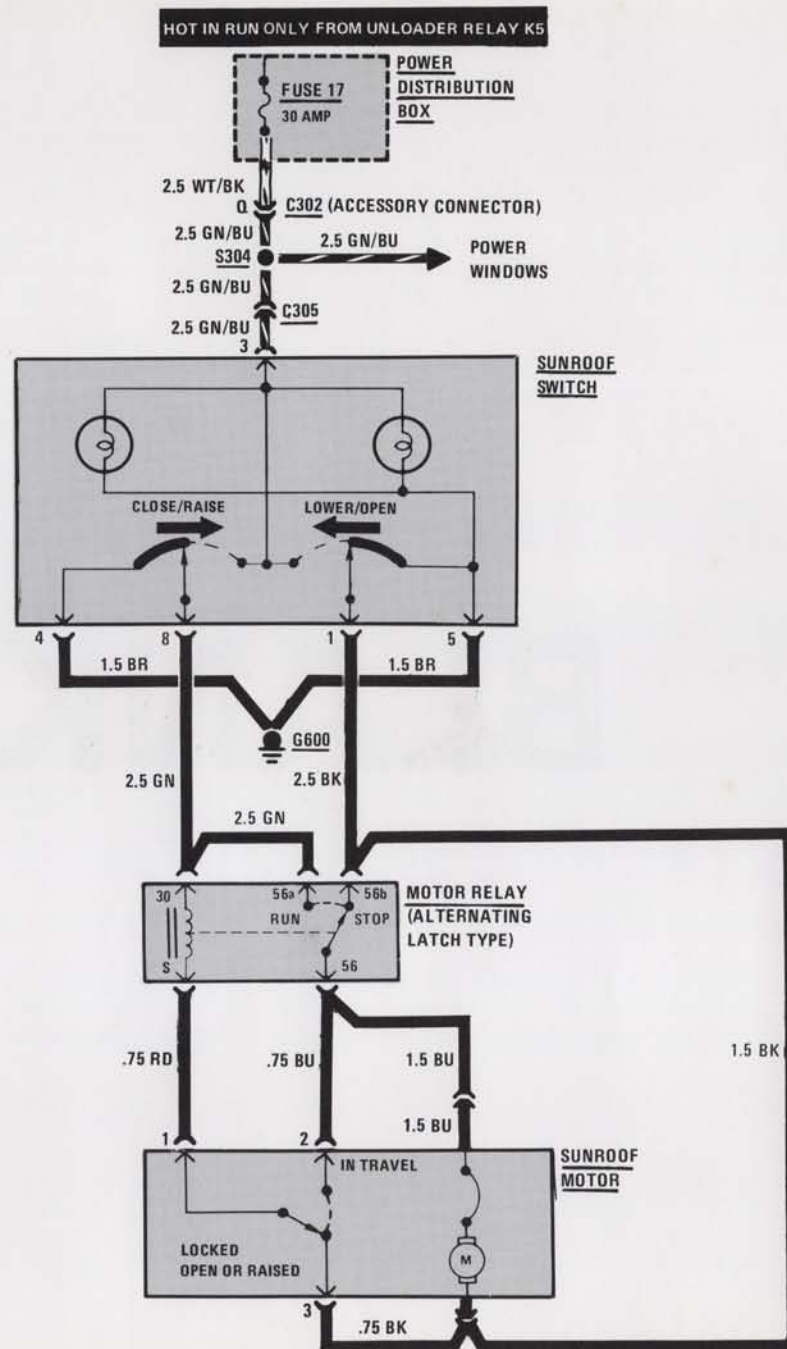


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HEATED SEATS

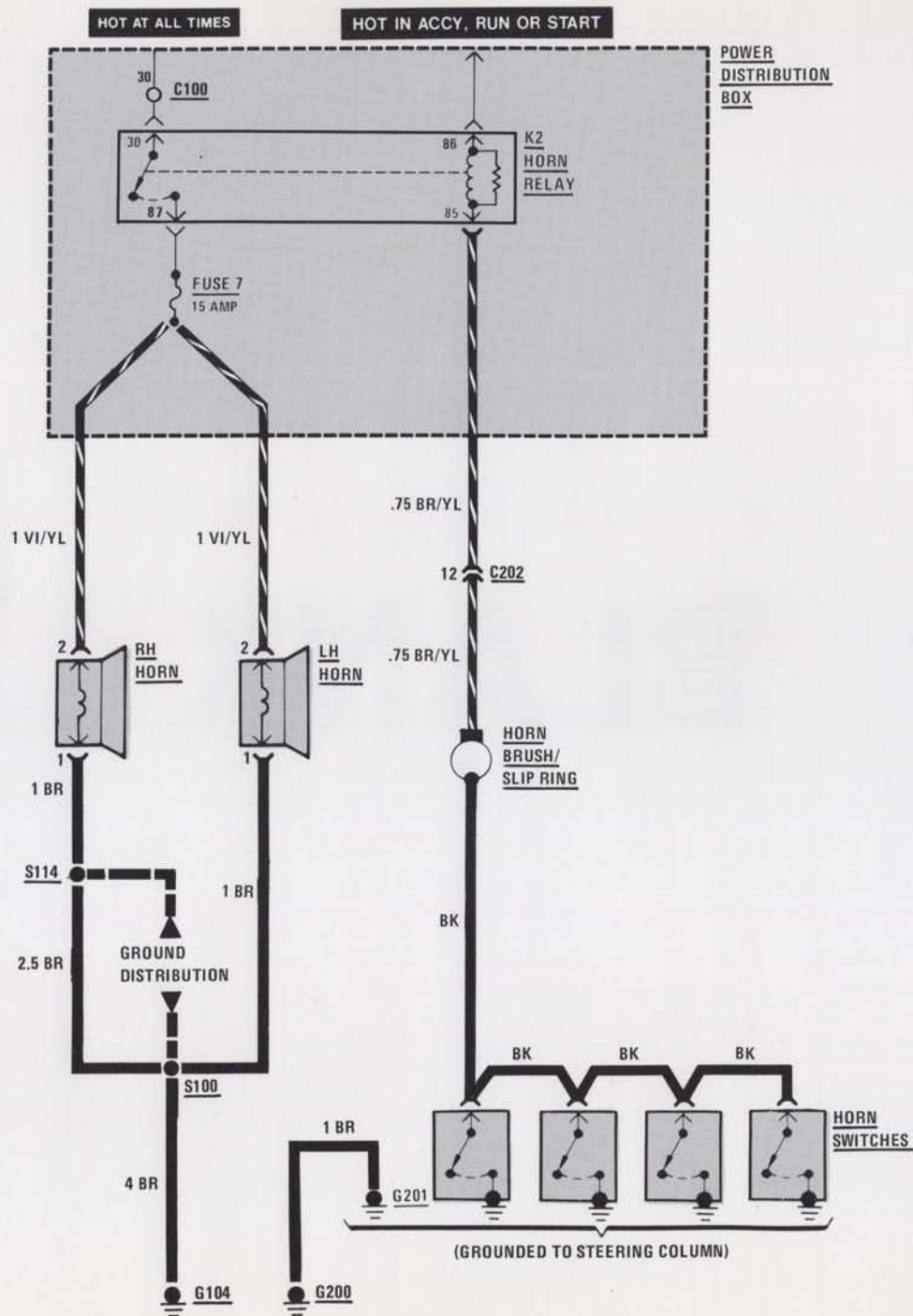


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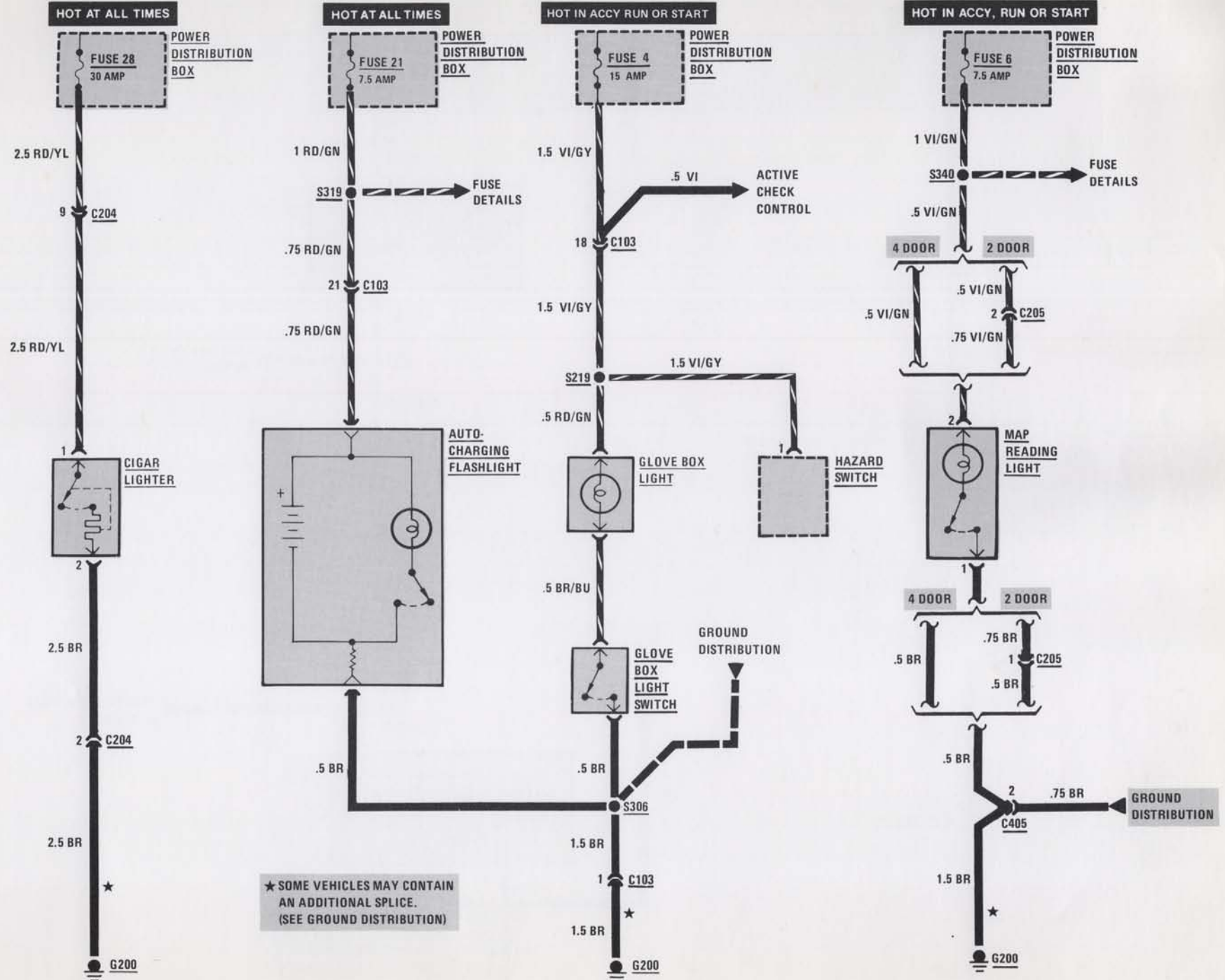


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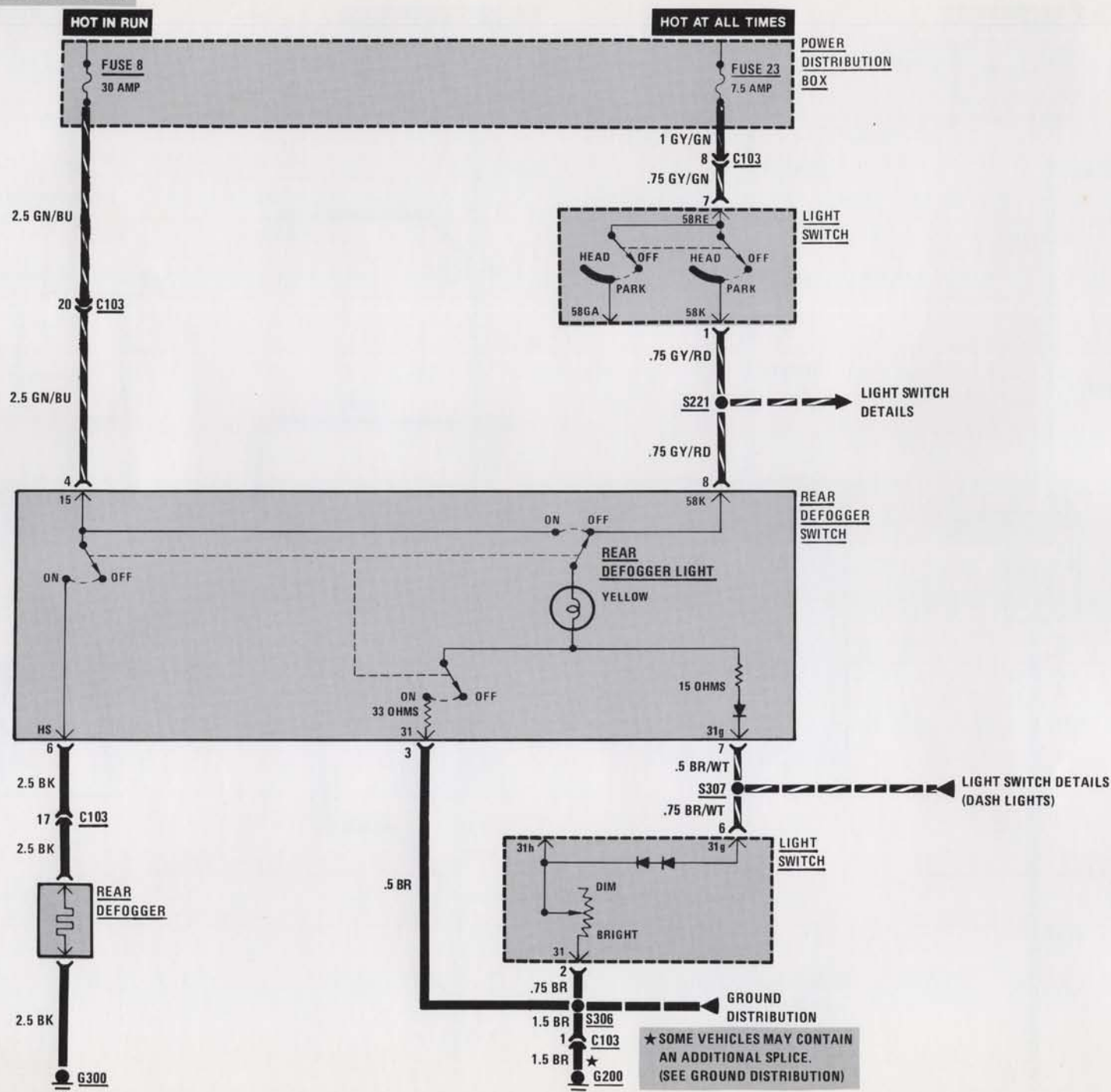
HORNS



CIGAR LIGHTER/GLOVE BOX LIGHT/AUTO-CHARGING FLASHLIGHT/MAP READING LIGHT

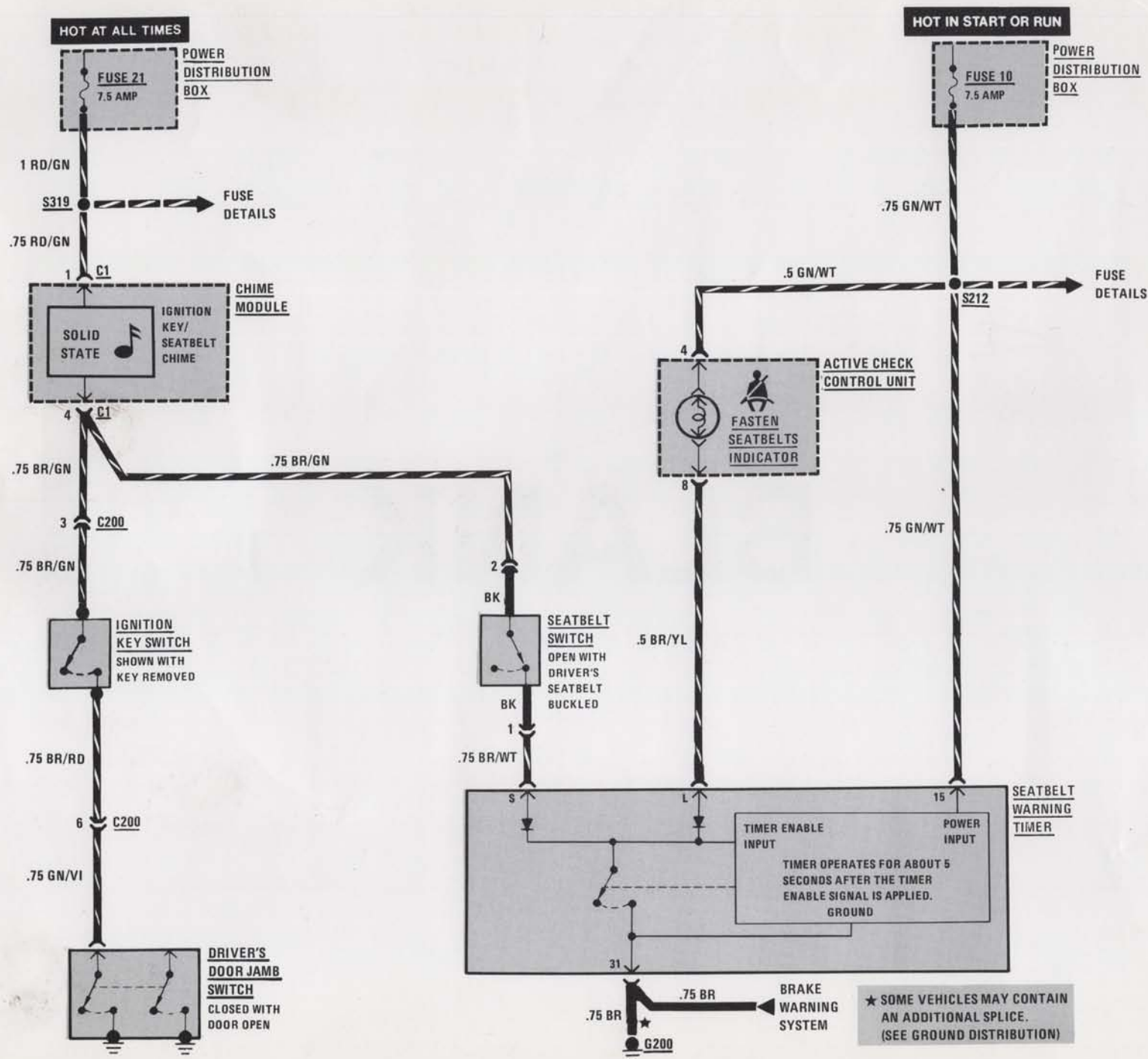


REAR DEFOGGER

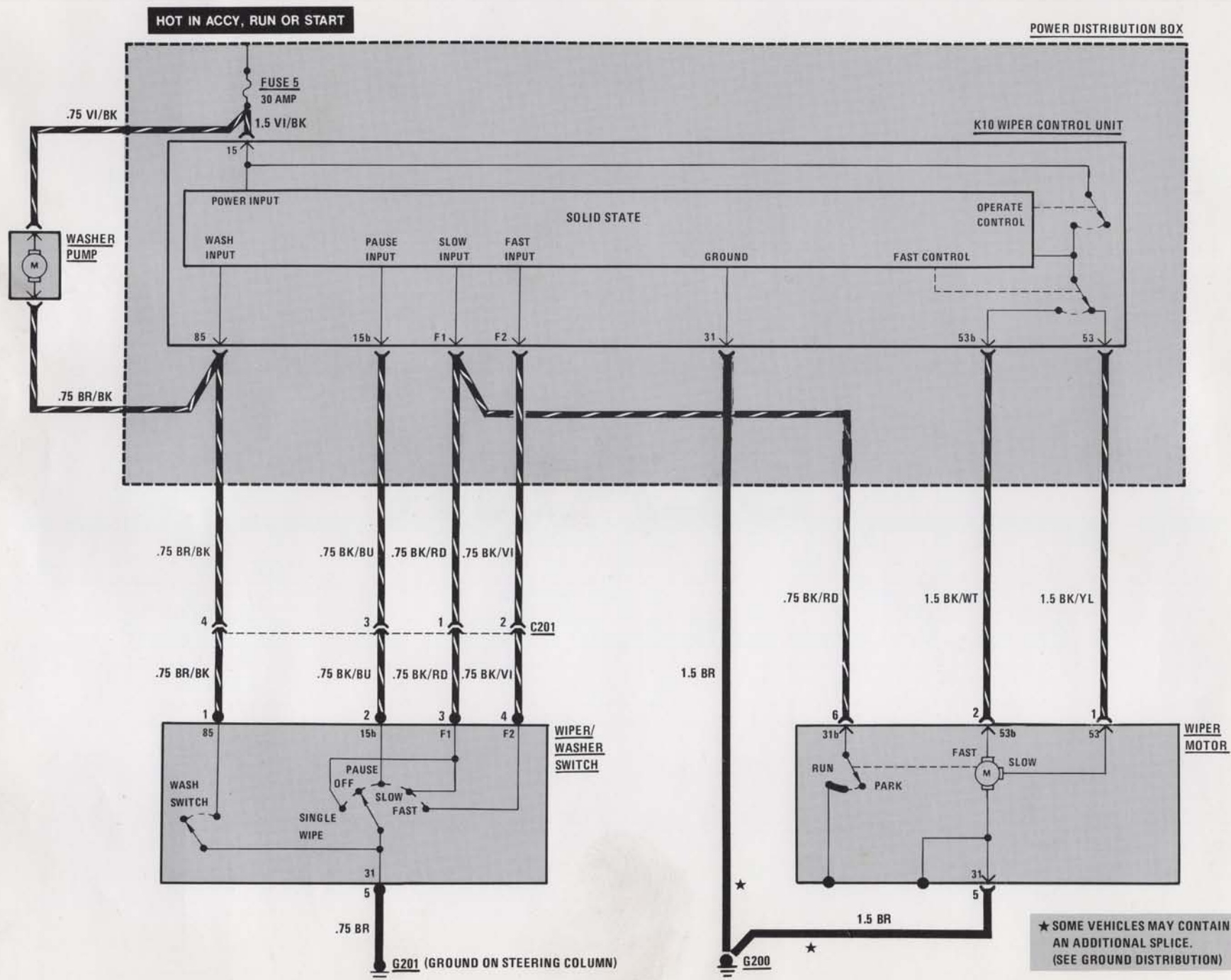


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6131-0 IGNITION KEY WARNING/SEATBELT WARNING



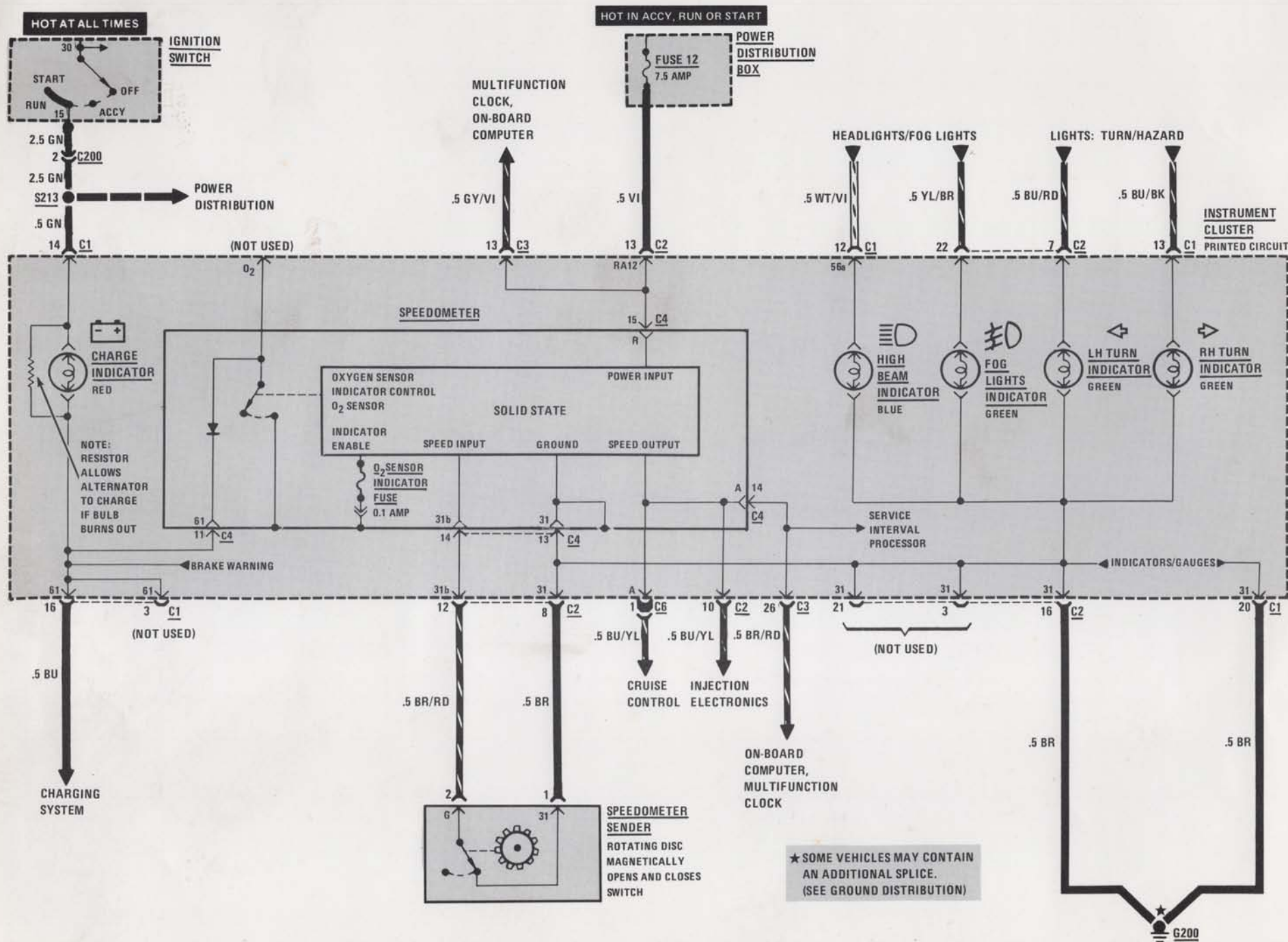
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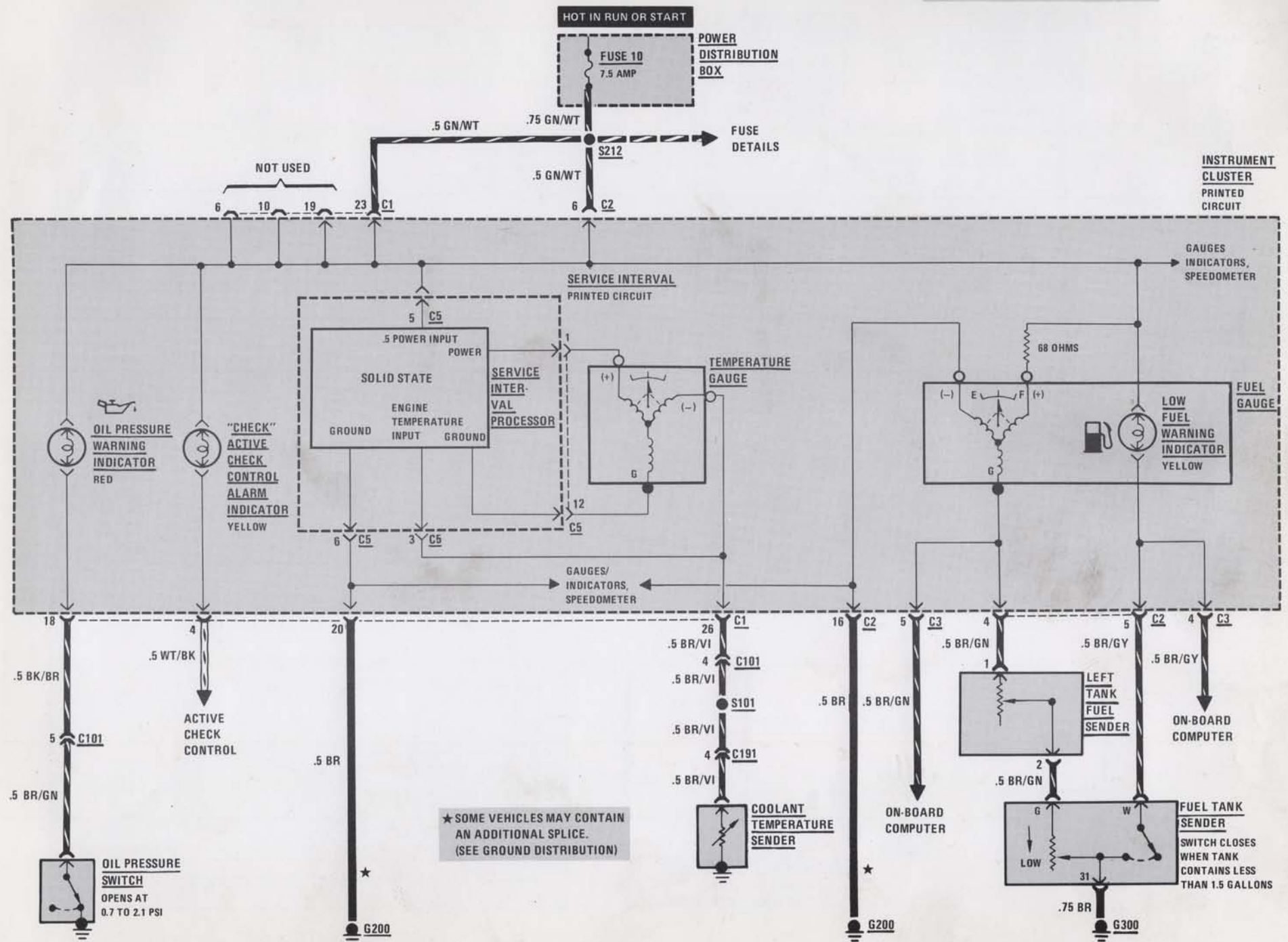
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6210-0 INSTRUMENT CLUSTER

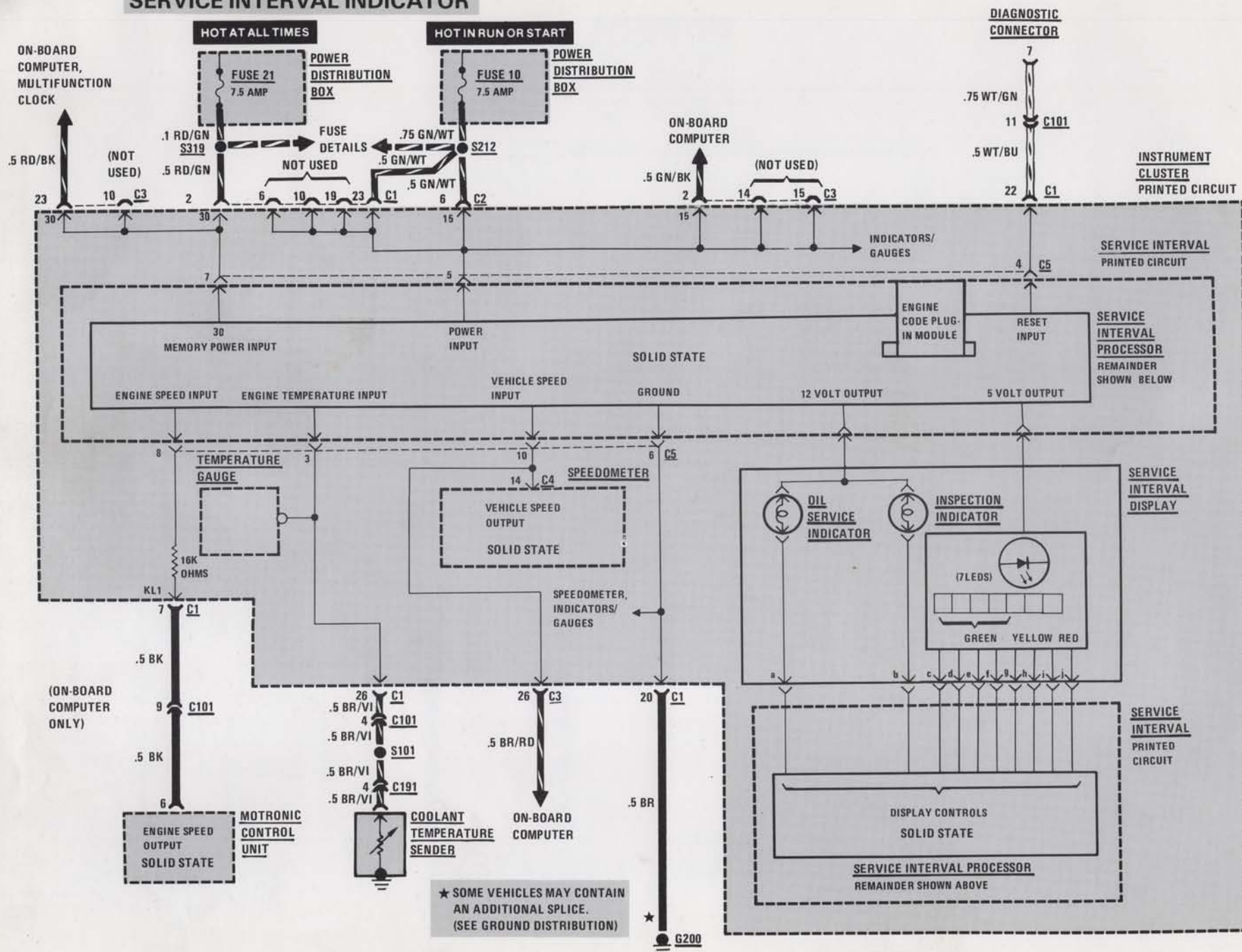
SPEEDOMETER/INDICATORS



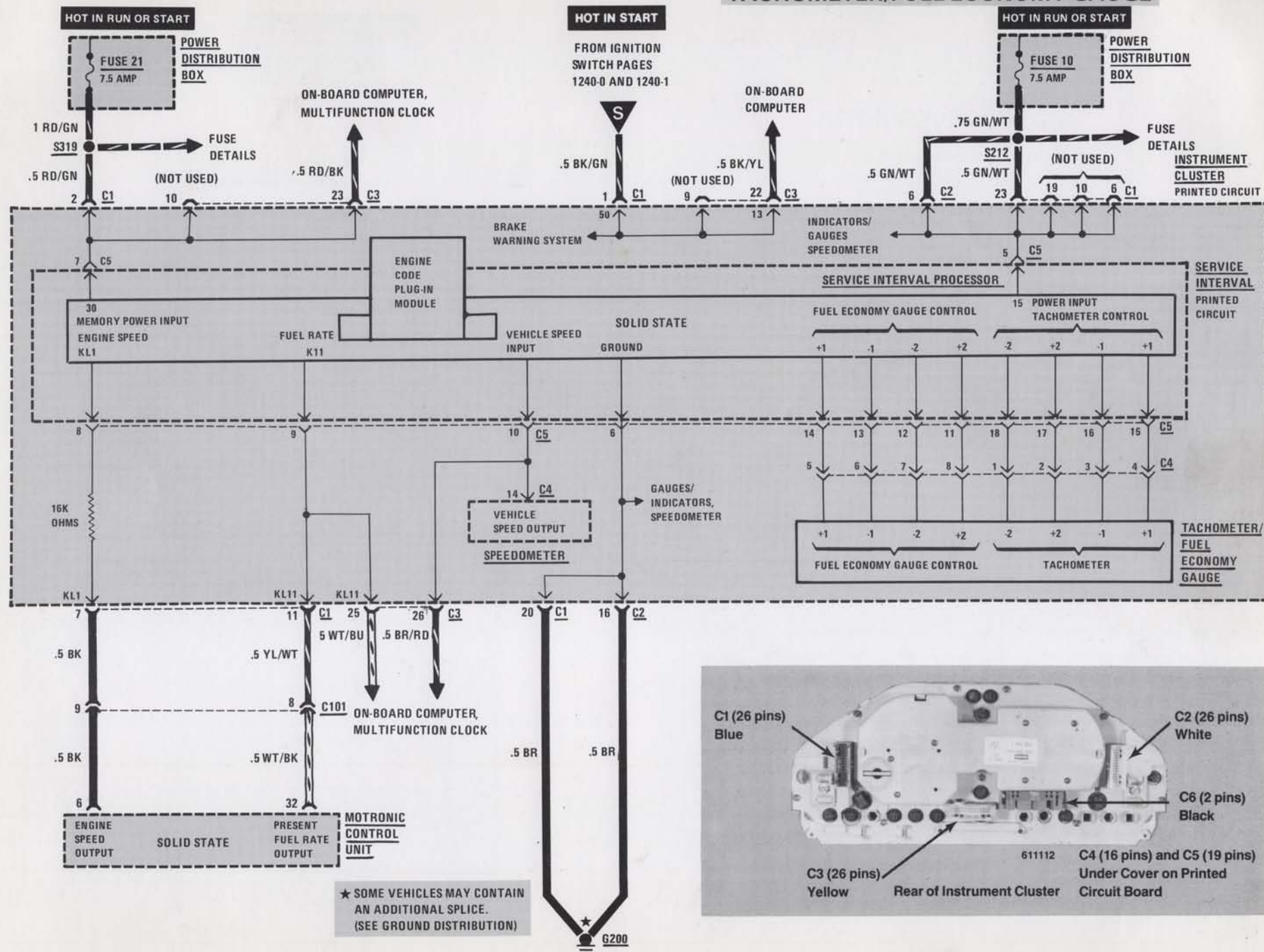
GAUGES/INDICATOR



SERVICE INTERVAL INDICATOR



TACHOMETER/FUEL ECONOMY GAUGE



ACTIVE CHECK CONTROL

1. When the Ignition Switch is initially placed in "Run," the Active Check Control Arm Indicator flashes, and the Active Check Control Unit Brake Light LED and panel light illuminate for test purposes. Depressing the brake pedal clears the display.
2. When the Ignition Switch is placed in "Run," fault monitoring begins. To monitor the low beams, rear lights, or license lights, those circuits must be on. The brake lights are monitored only while the brake pedal is depressed. An exception to this is when all brake light circuits are open. A fault will be indicated with the Ignition Switch in Run.
3. When a fault occurs, the alarm indicator flashes, the appropriate LED fault indicator lights, and the panel light goes on for five seconds. Depressing the test button will clear the alarm indicator, but the LED fault indicator remains on.
4. To test the unit, depress the test button. The LED fault indicators and the panel lights should go on.

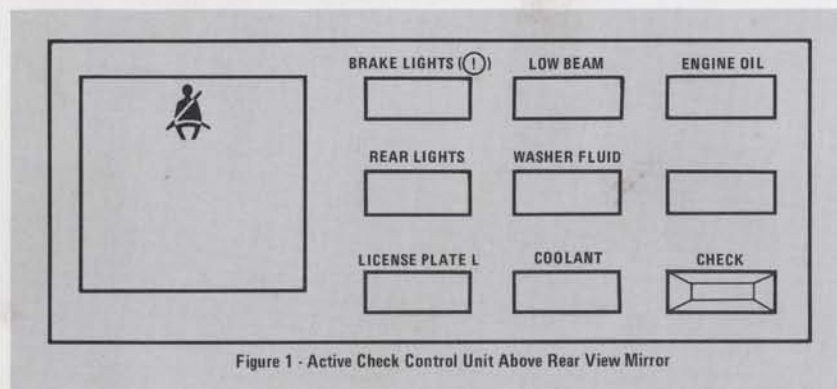
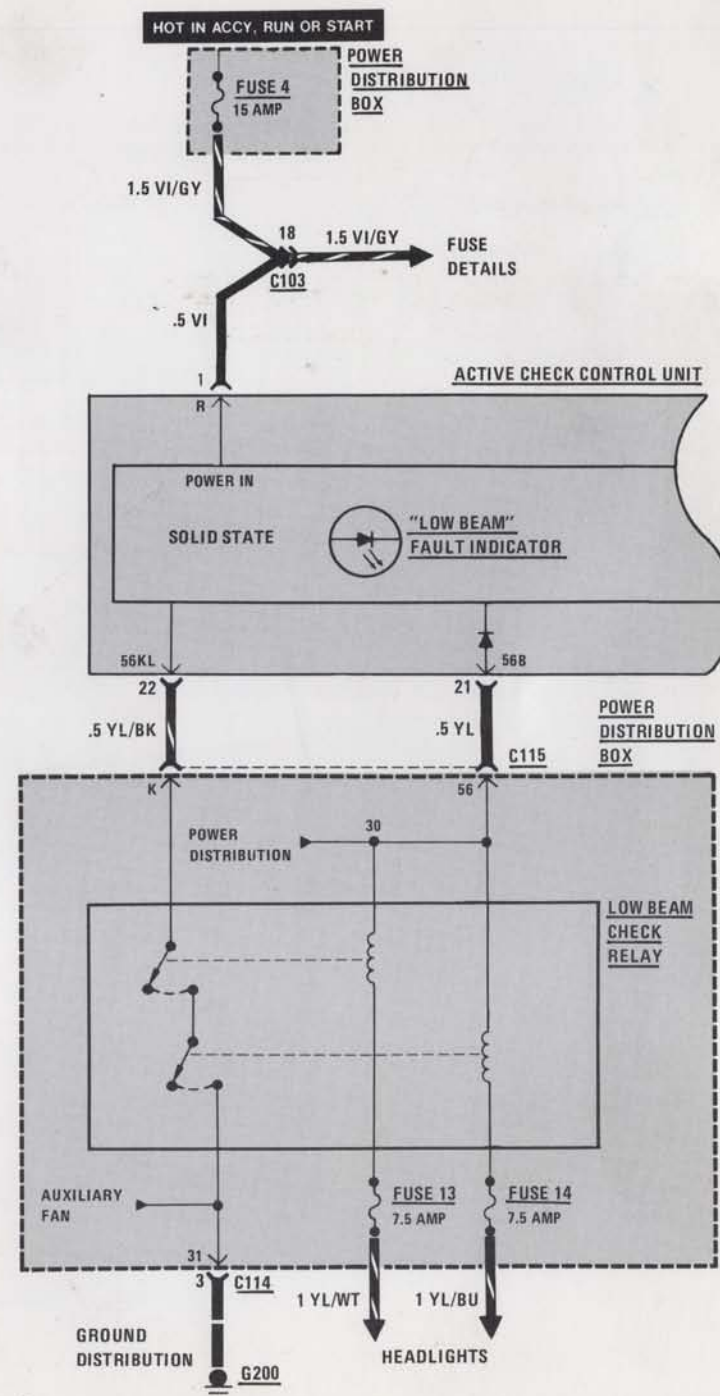
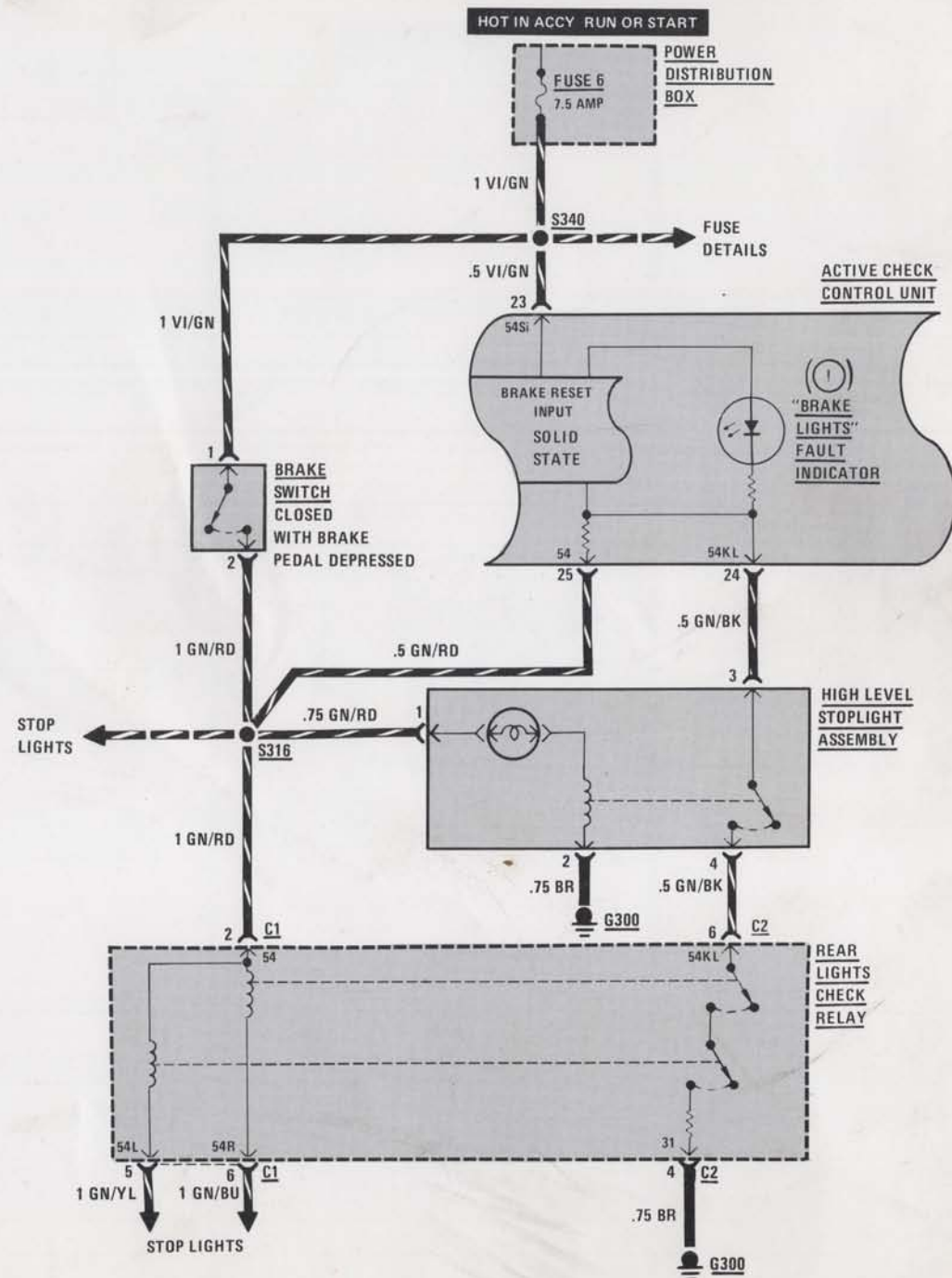
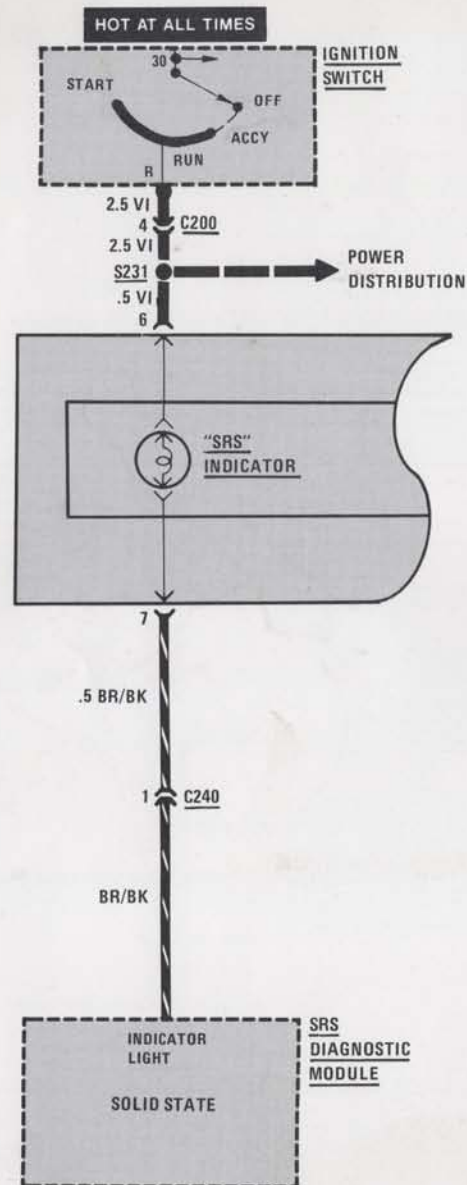
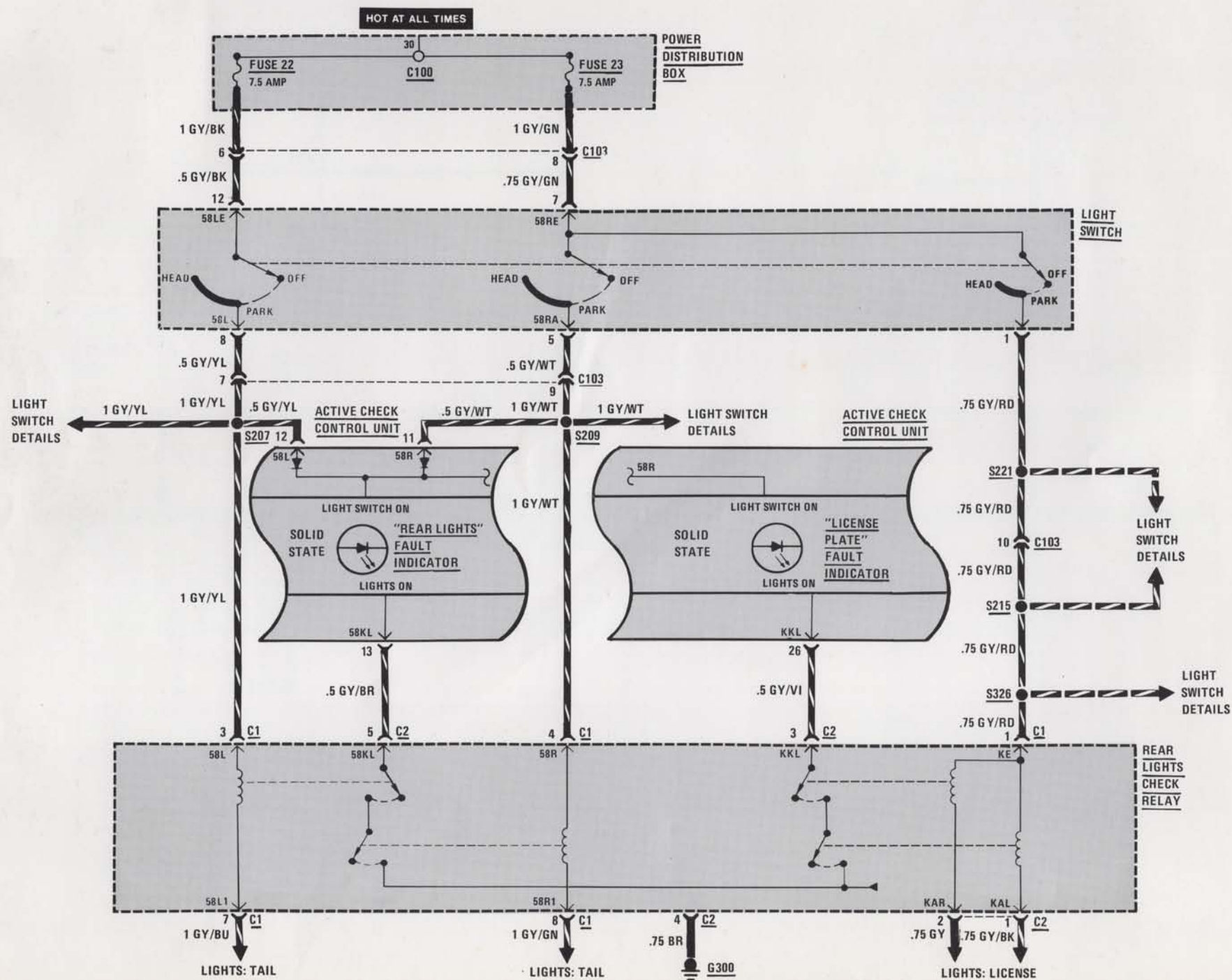


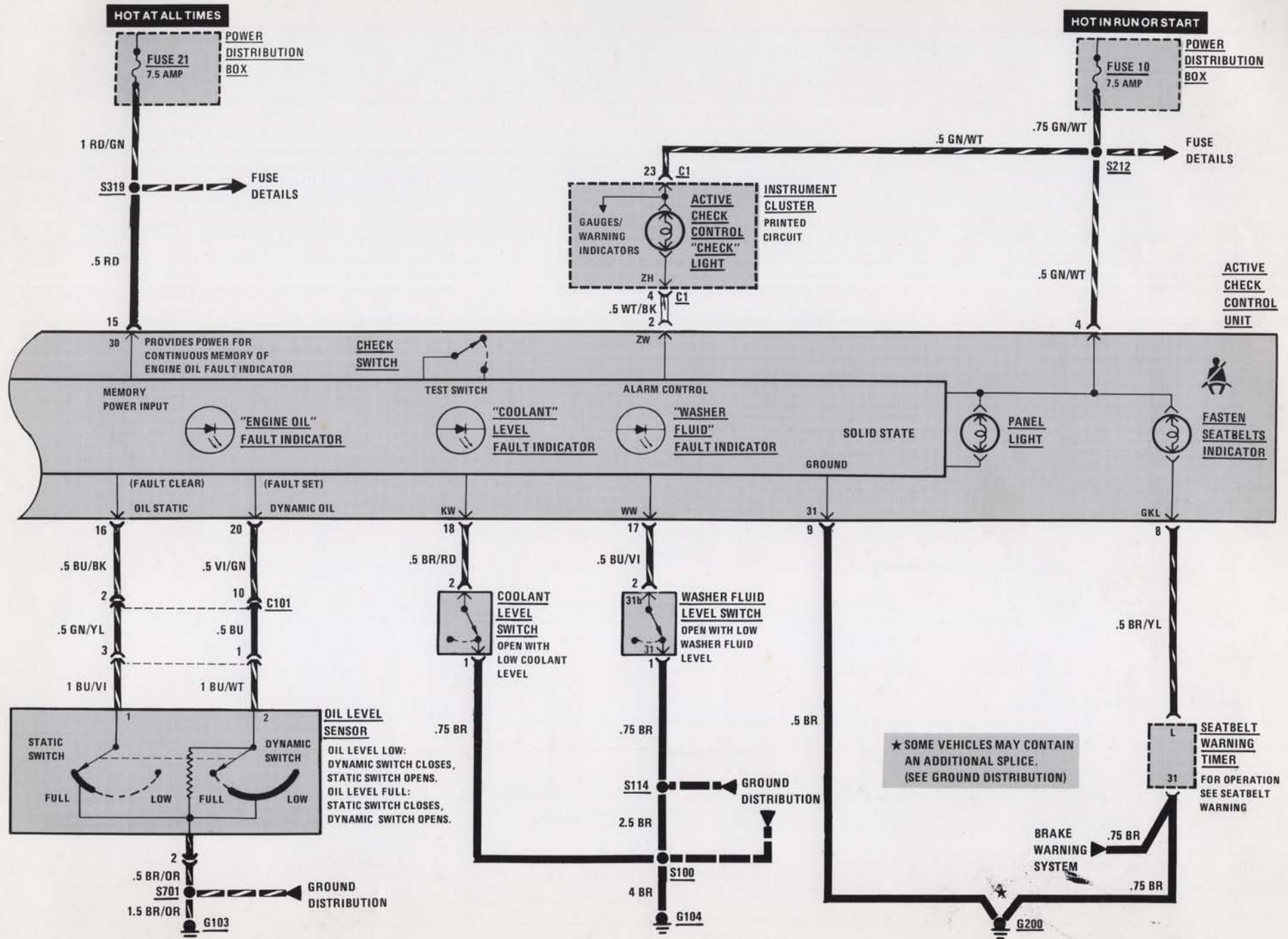
Figure 1 - Active Check Control Unit Above Rear View Mirror

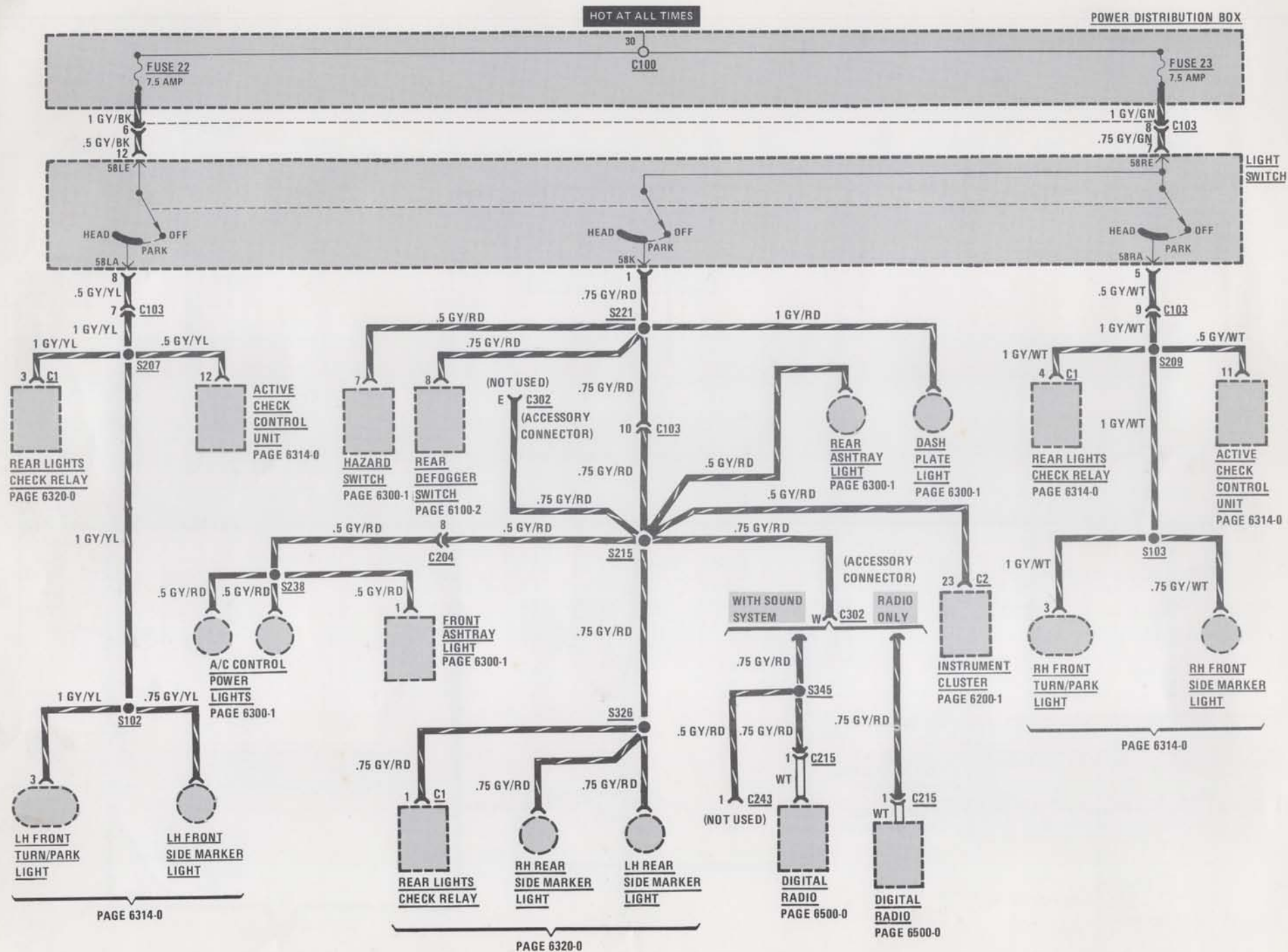




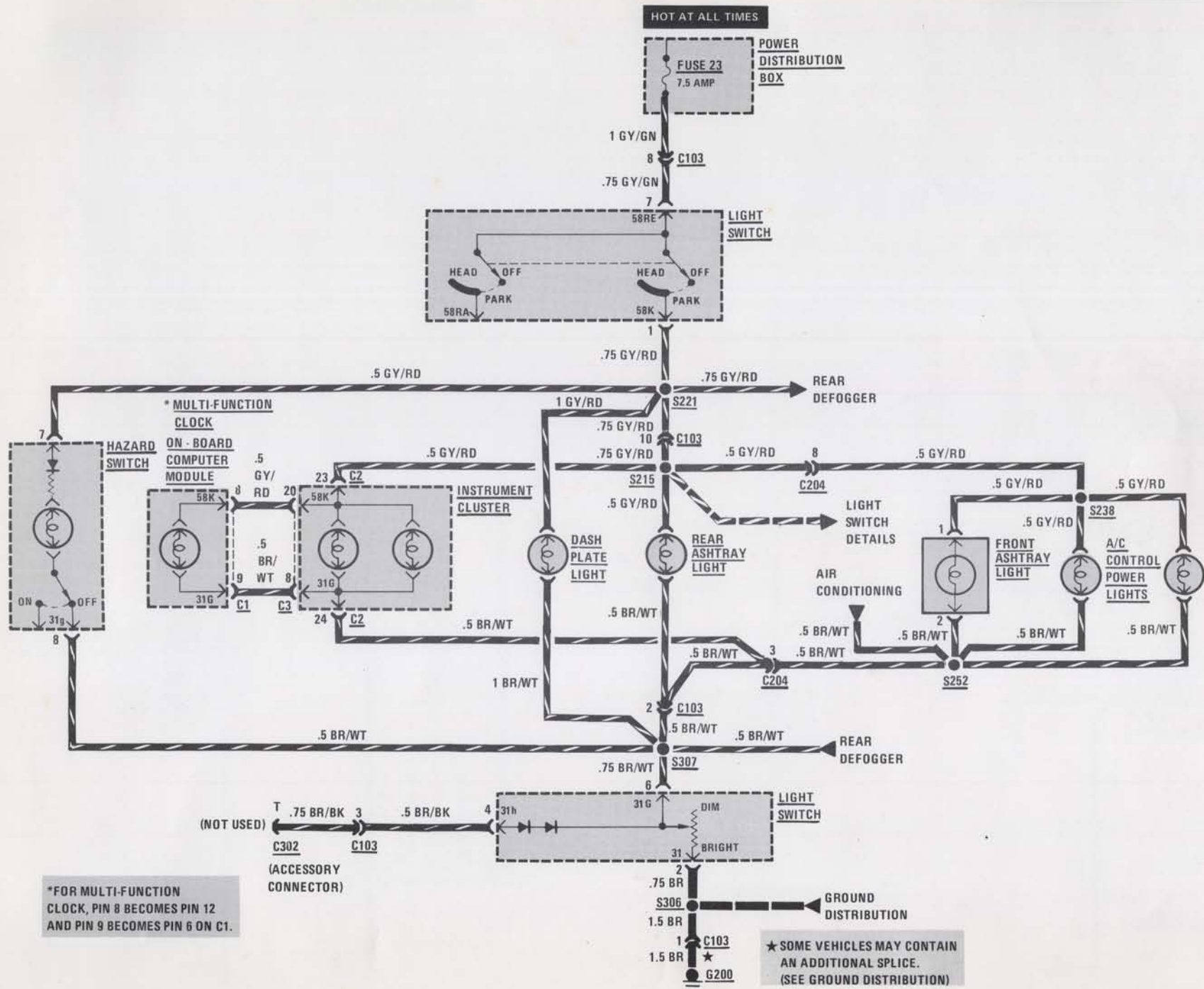
6216-2 ACTIVE CHECK CONTROL

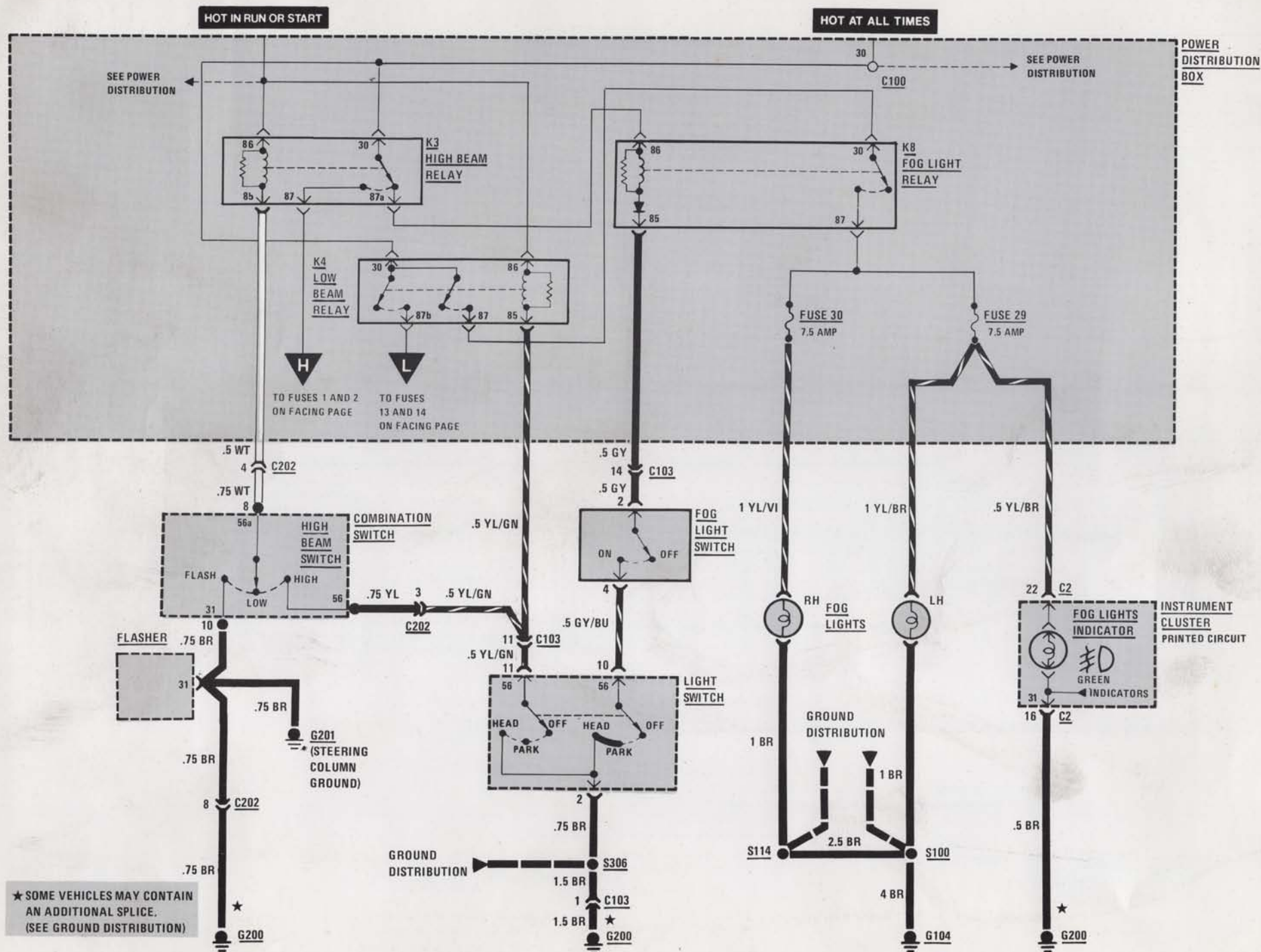


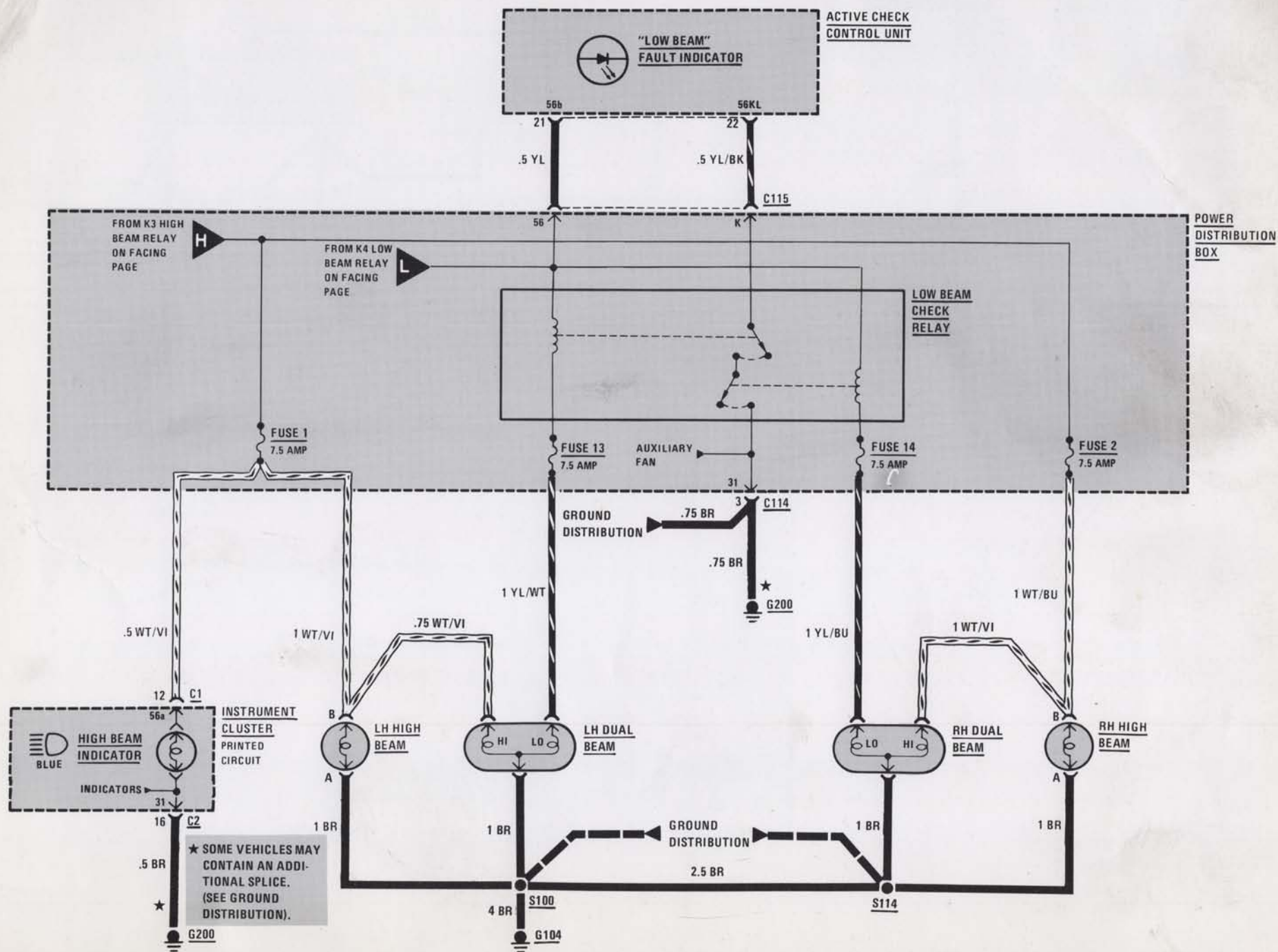




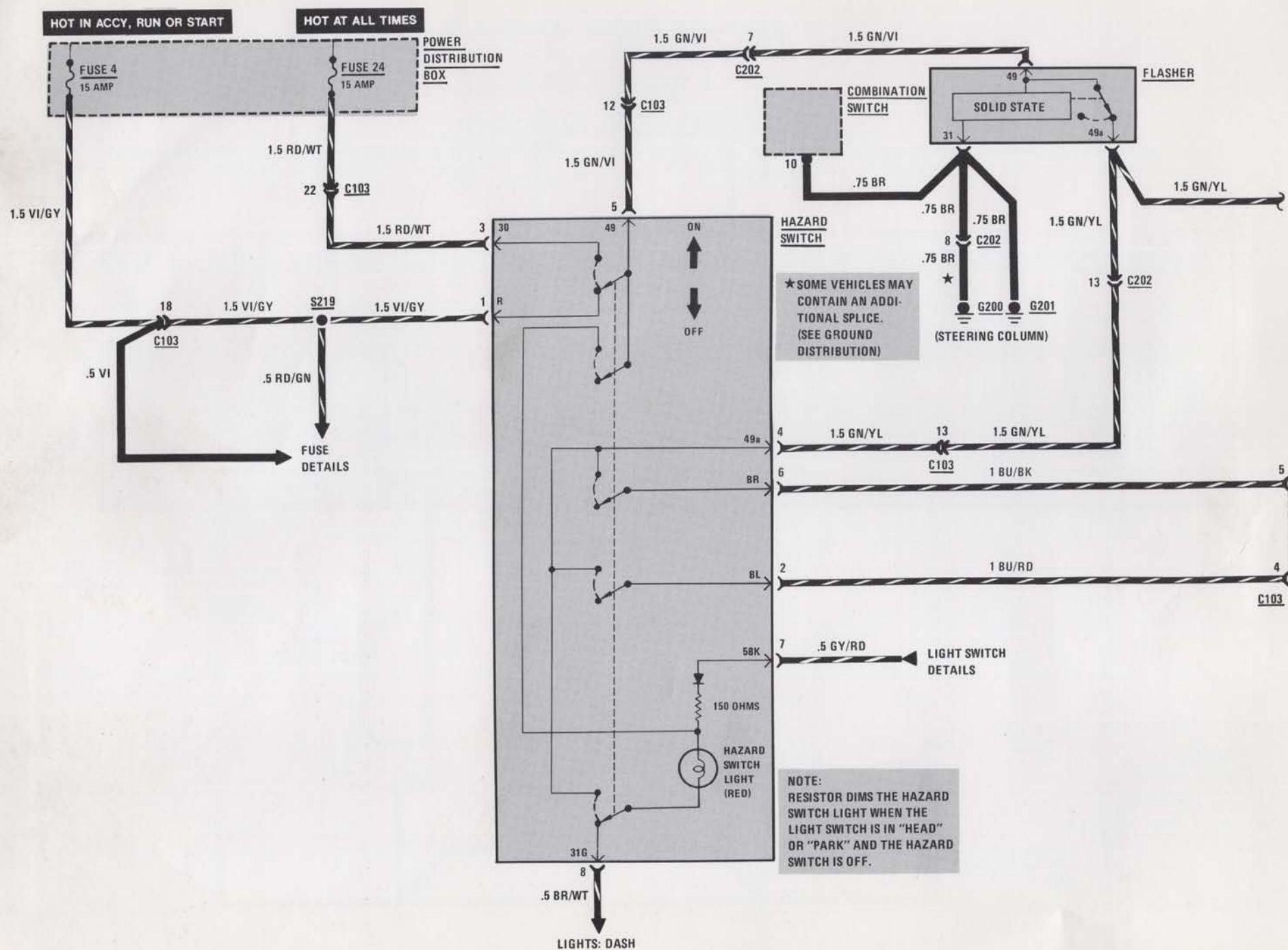
DASH LIGHTS





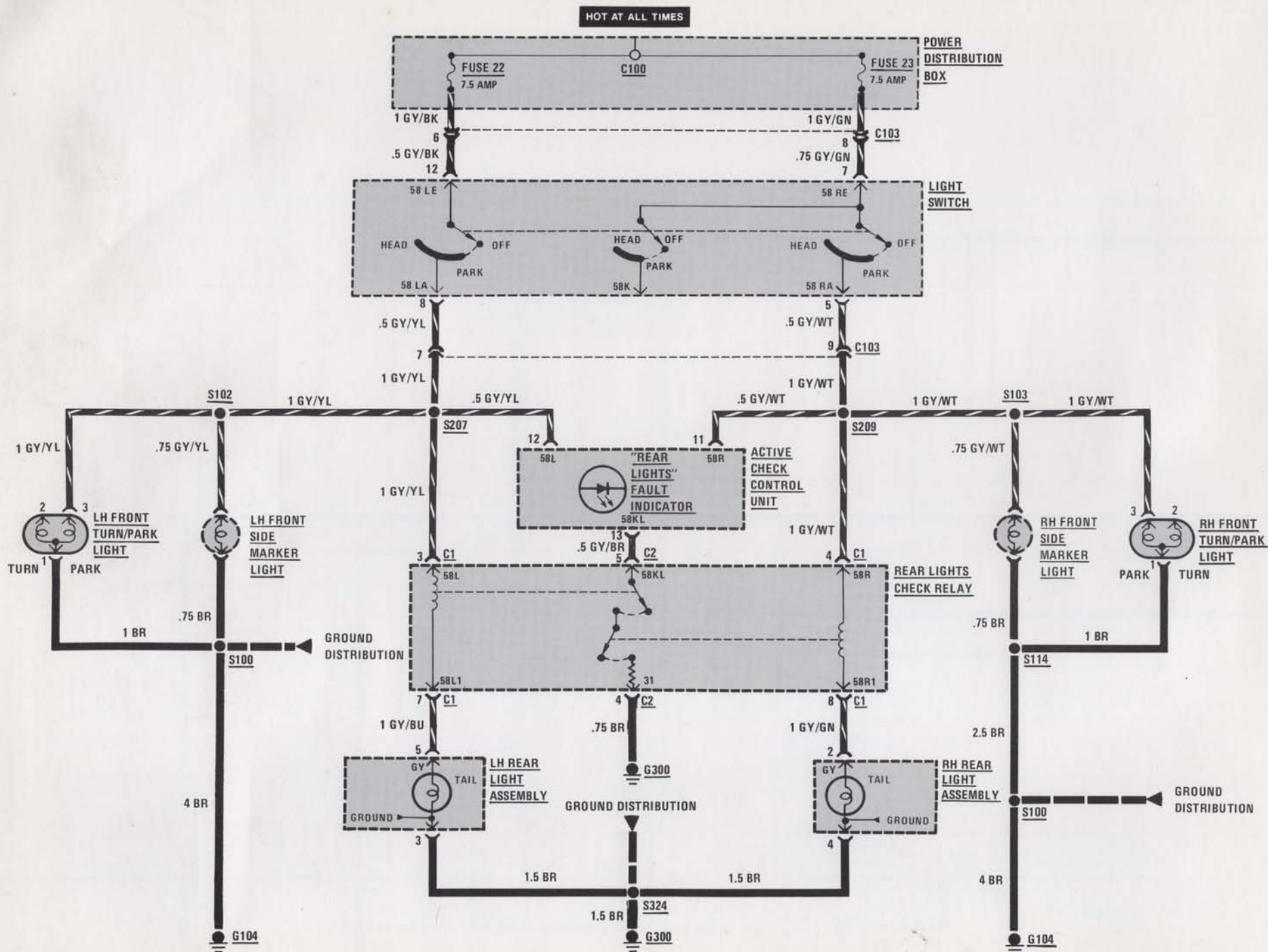


6313-0 TURN/HAZARD LIGHTS



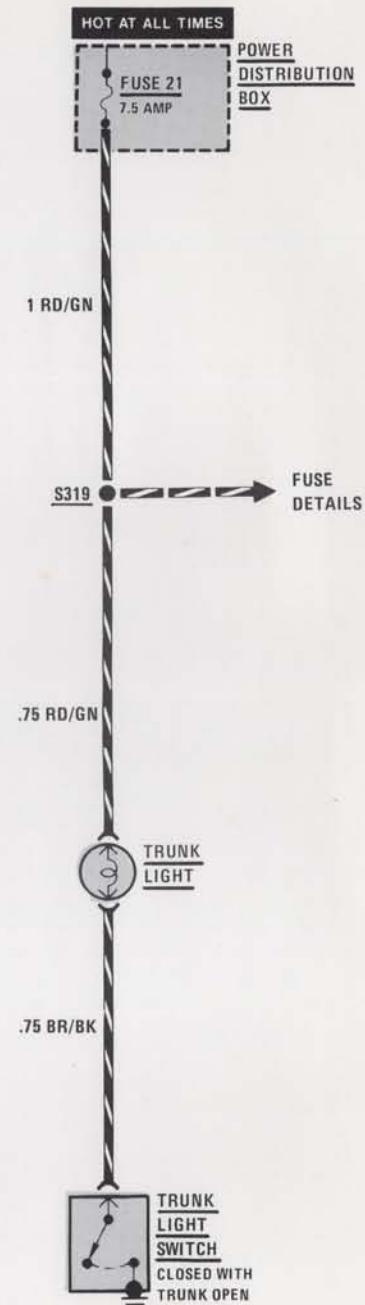
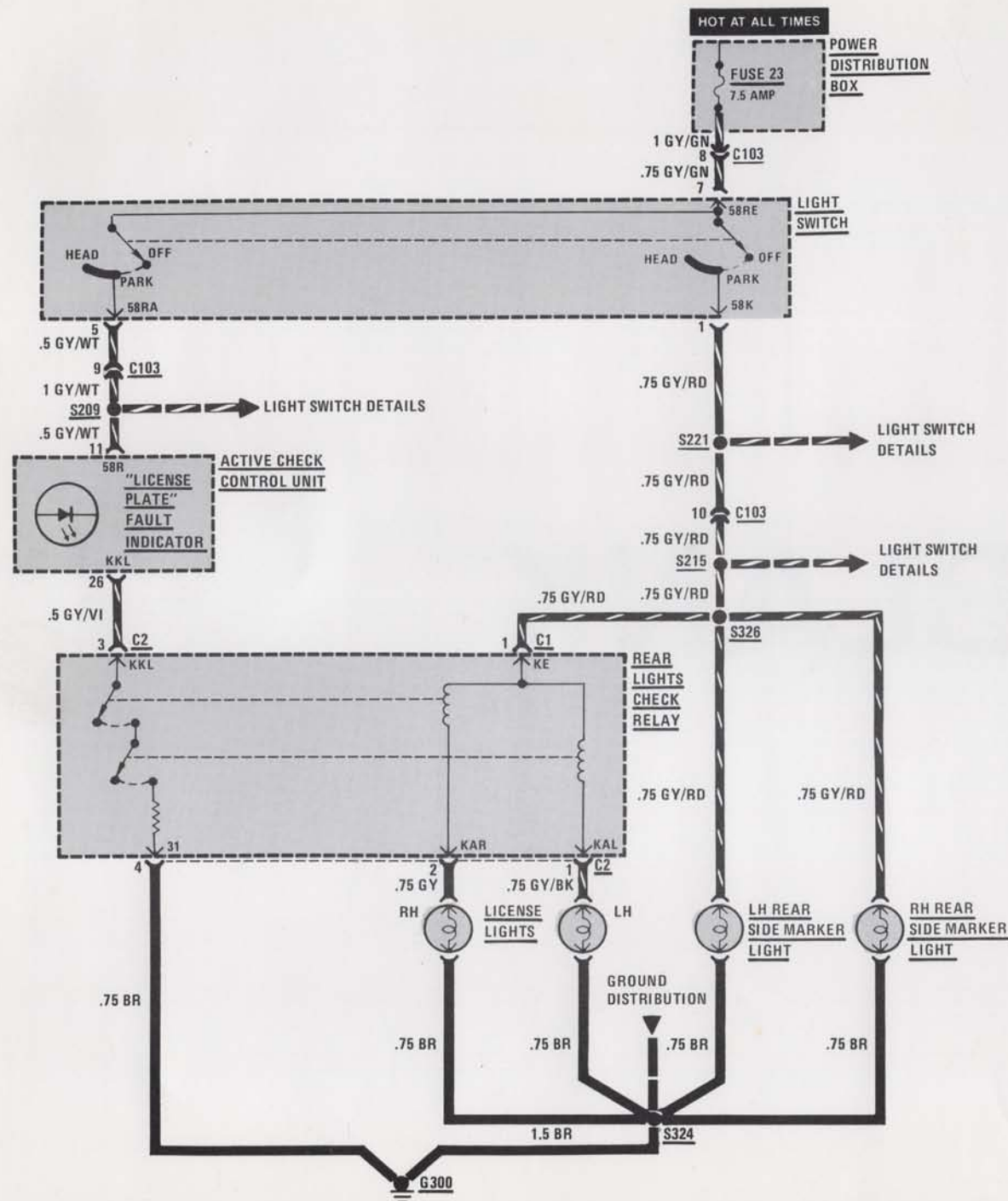
★ SOME VEHICLES MAY CONTAIN
AN ADDITIONAL SPLICE.
(SEE GROUND DISTRIBUTION)

6314-0 PARK/TAIL/Front MARKER LIGHTS



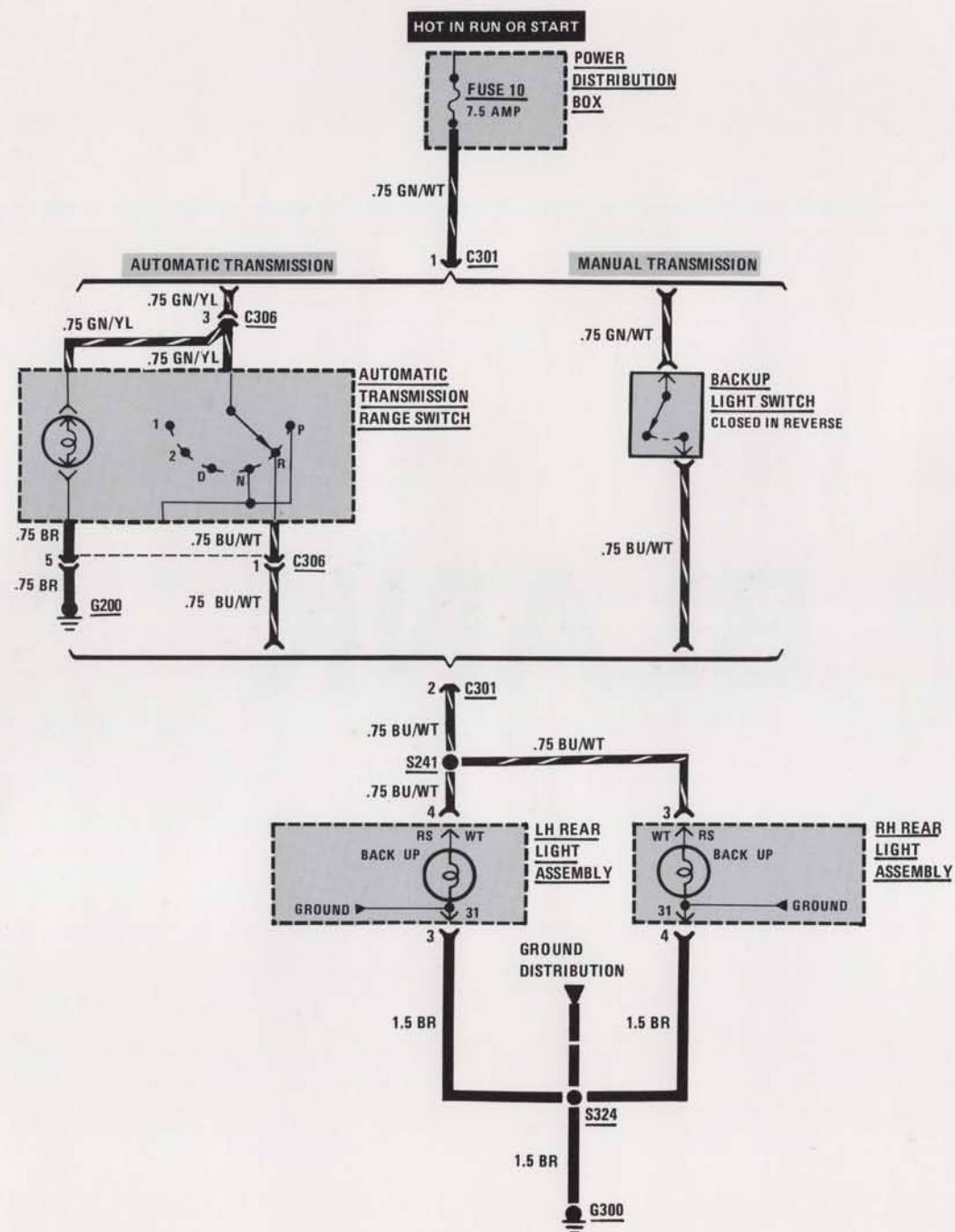
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6320-0 REAR MARKER/LICENSE/TRUNK LIGHTS



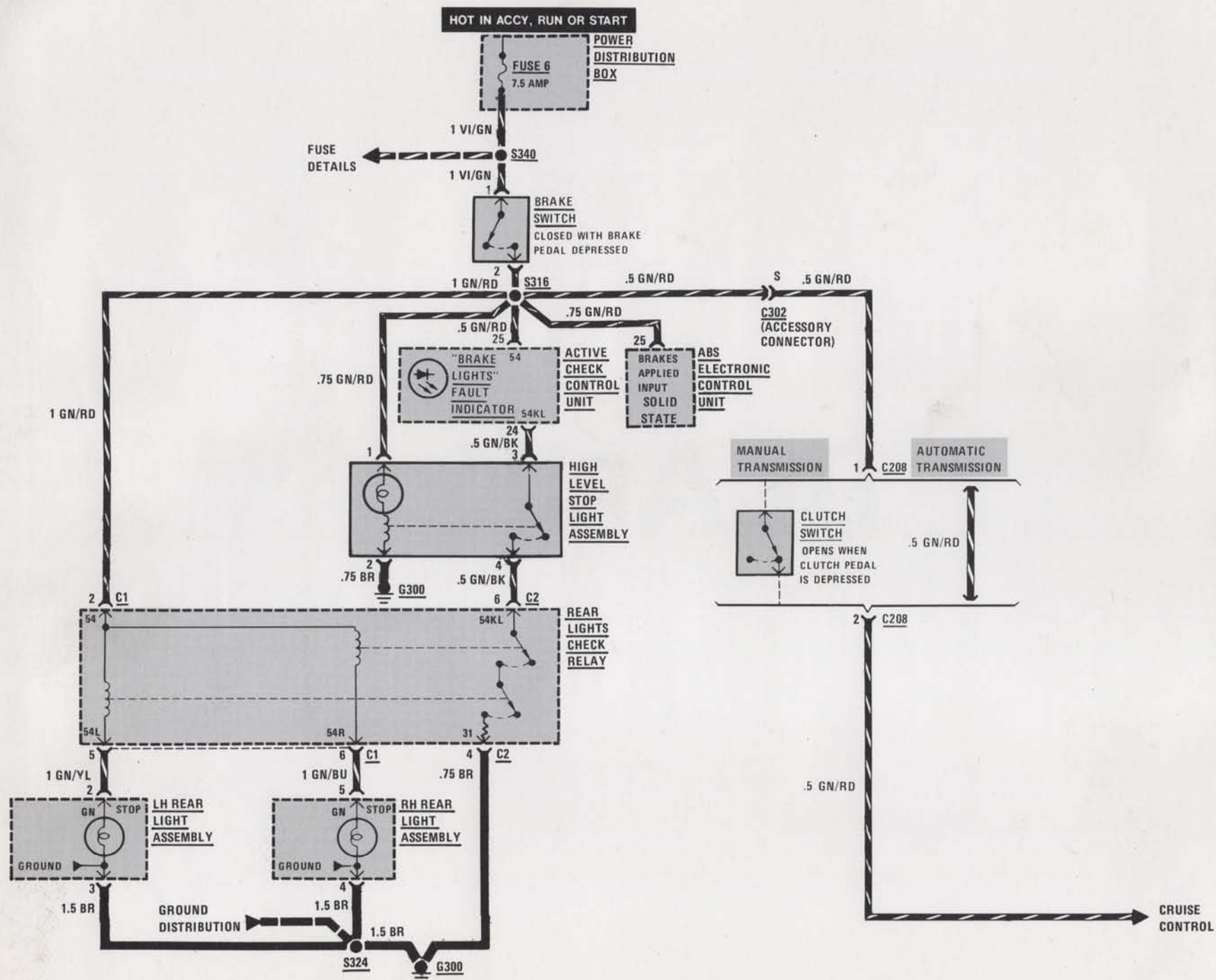
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6322-0 BACK UP LIGHTS



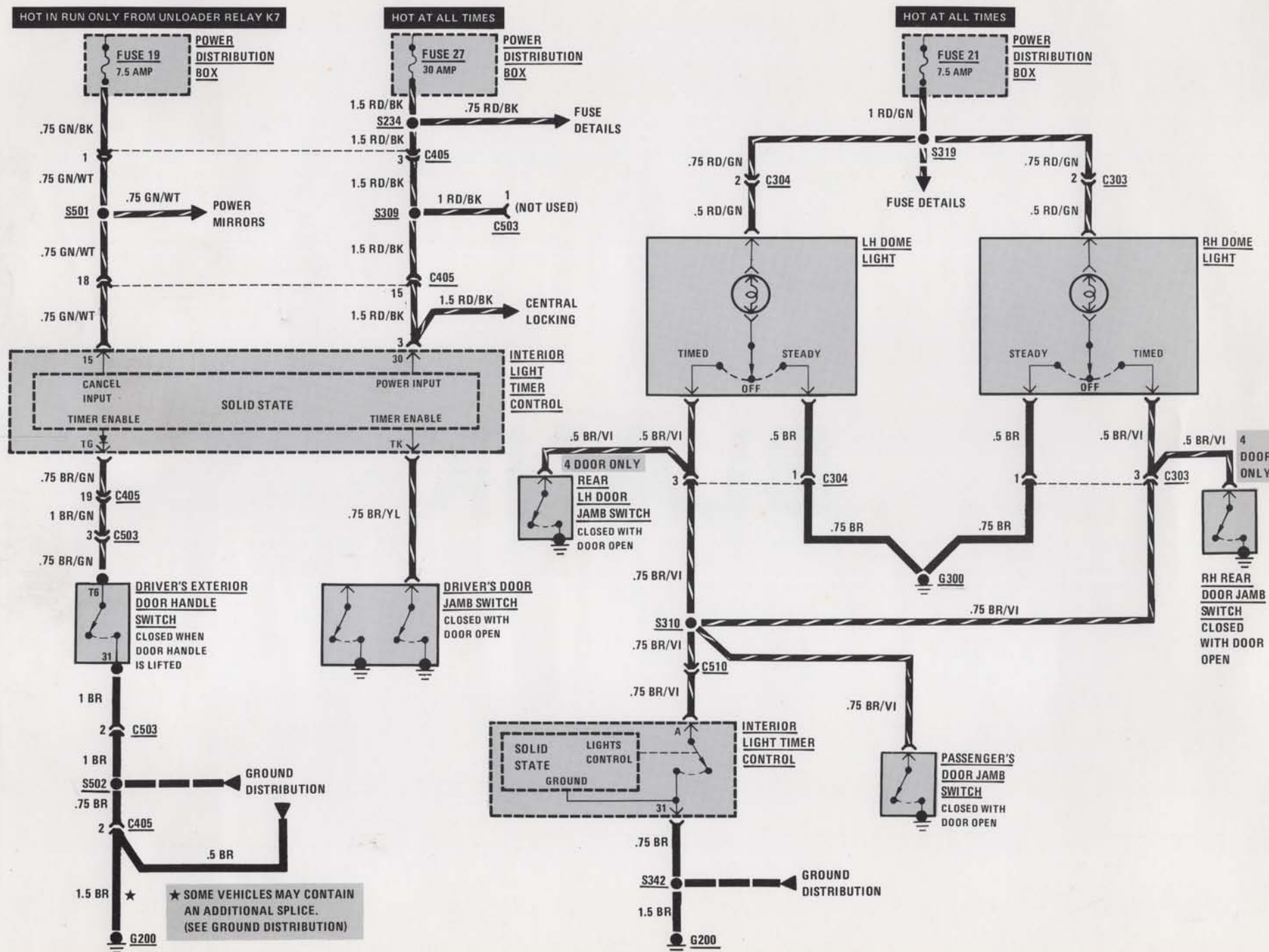
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6325-0 STOP LIGHTS



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6330-0 INTERIOR LIGHTS



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SYSTEM CHECK

This procedure provides an overall check of the Heating and Air Conditioning System. Each of the steps can be performed without disassembly or the use of tools.

Complete this procedure with the temperature outside the car above 60 degrees F (16 degrees C) and the engine warm and running at idle.

SYSTEM CHECK TABLE

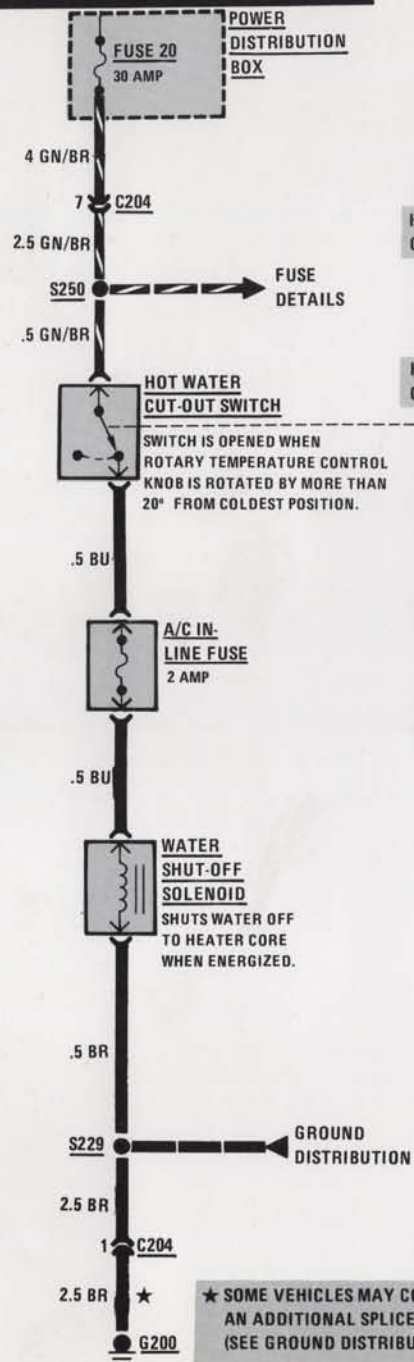
SET: Temperature Control fully counterclockwise Upper and Lower Slide Levers to extreme left Center Slide Lever to extreme right Blower Speed Control at 0 (OFF)	
ACTION	NORMAL RESULT
Press Fresh/Recirculating Air Switch (ON). Release A/C button (OFF).	Fresh/Recirculating pushbutton lights. Blower runs slowly.
Rotate Blower Speed Control through steps 1 to 4	Blower speed increases at each step to maximum speed at Step 4
Press Fresh/Recirculating Air Switch to release it (OFF)	Fresh/Recirculating button is no longer lit. Outside air is drawn into car. (The sound of Flap Door Motors may be heard repositioning flaps.)
Rotate Temperature Control at least 1/4 turn clockwise	Air flow becomes warm
Depress A/C button (ON)	A/C button lights. A/C Compressor runs. Auxiliary Cooling Fan runs.
Press A/C button to release it (OFF)	A/C button is no longer lit. A/C Compressor turns off. Auxiliary Cooling Fan turns off.
Set Blower Speed Control to 0 (OFF)	Blower turns off

- If all of the steps can be completed as described, the Heating and Air Conditioning System is operating normally.

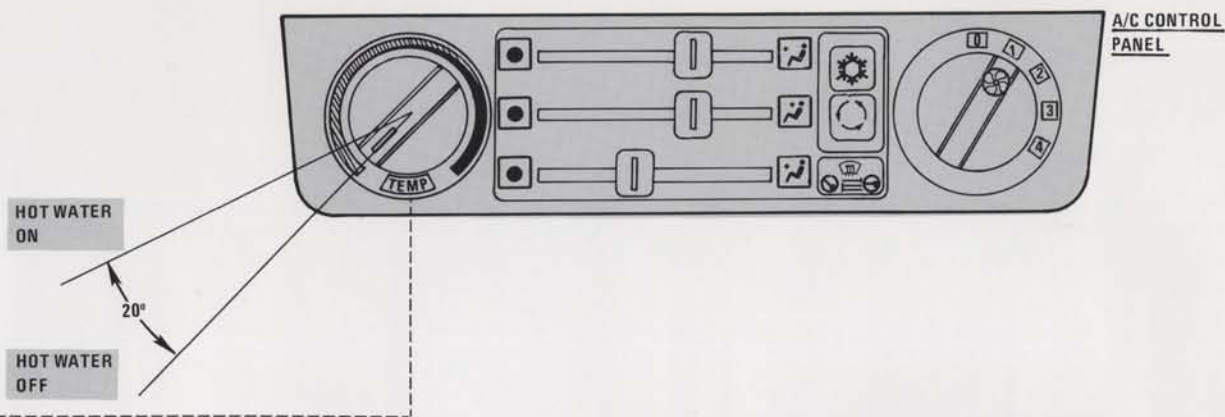
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HEATING AND AIR CONDITIONING (HOT WATER CONTROL)

HOT IN RUN ONLY FROM UNLOADER RELAY K7



★ SOME VEHICLES MAY CONTAIN AN ADDITIONAL SPLICE. (SEE GROUND DISTRIBUTION)



CIRCUIT OPERATION

The Water Shut-Off Solenoid controls the flow of engine coolant through the heater core. When the solenoid is energized, coolant flow is shut off to allow maximum cooling from the air conditioning system. The Water Shut-Off Solenoid is controlled by the Hot Water Cut-Off Switch, which is part of the A/C Control Panel TEMP Control.

Battery voltage is applied through Fuse 20 to the Hot Water Cut-Off Switch when the Ignition Switch is in RUN. The Hot Water Cut-Off Switch is closed when the TEMP Control is rotated fully counterclockwise (coldest position), and opens when the control is rotated more than 20 degrees in a clockwise direction. When the switch is closed, battery voltage is applied through the A/C In-Line Fuse to the Water Shut-Off Solenoid. The solenoid is energized and shuts off the coolant flow through the heater core.

The Water Shut-Off Solenoid and A/C In-Line Diode are protected by the A/C In-Line Fuse. If any failures occur in the solenoid, the Fuse will isolate them to prevent the failures from affecting other parts of the heating and air conditioning circuits.

TROUBLESHOOTING HINTS

- Try the following checks before doing the System Diagnosis.
- 1. Check that Water Shut-Off Solenoid connector is firmly seated.
- 2. Check the A/C In-Line Fuse.
- Go to Heating and Air Conditioning (6410-0) System Check for a guide to normal operation.
- Go to System Diagnosis for diagnostic tests.

SYSTEM DIAGNOSIS

- Do the following test if the Water Shut-Off Solenoid does not operate normally.

WATER SHUT-OFF SOLENOID TEST (TABLE 1)

Measure: VOLTAGE At: WATER SHUT-OFF SOLENOID CONNECTOR (Disconnected) Conditions: • Ignition Switch: RUN • A/C Control Panel TEMP Control: FULLY COUNTERCLOCKWISE		
Measure Between	Correct Voltage	For Diagnosis
BU & Ground	Battery	See 1
BU & or BR	Battery	See 2
• Rotate A/C Control Panel TEMP Control to Mid-Position		
BU & Ground	0 Volts	See 3

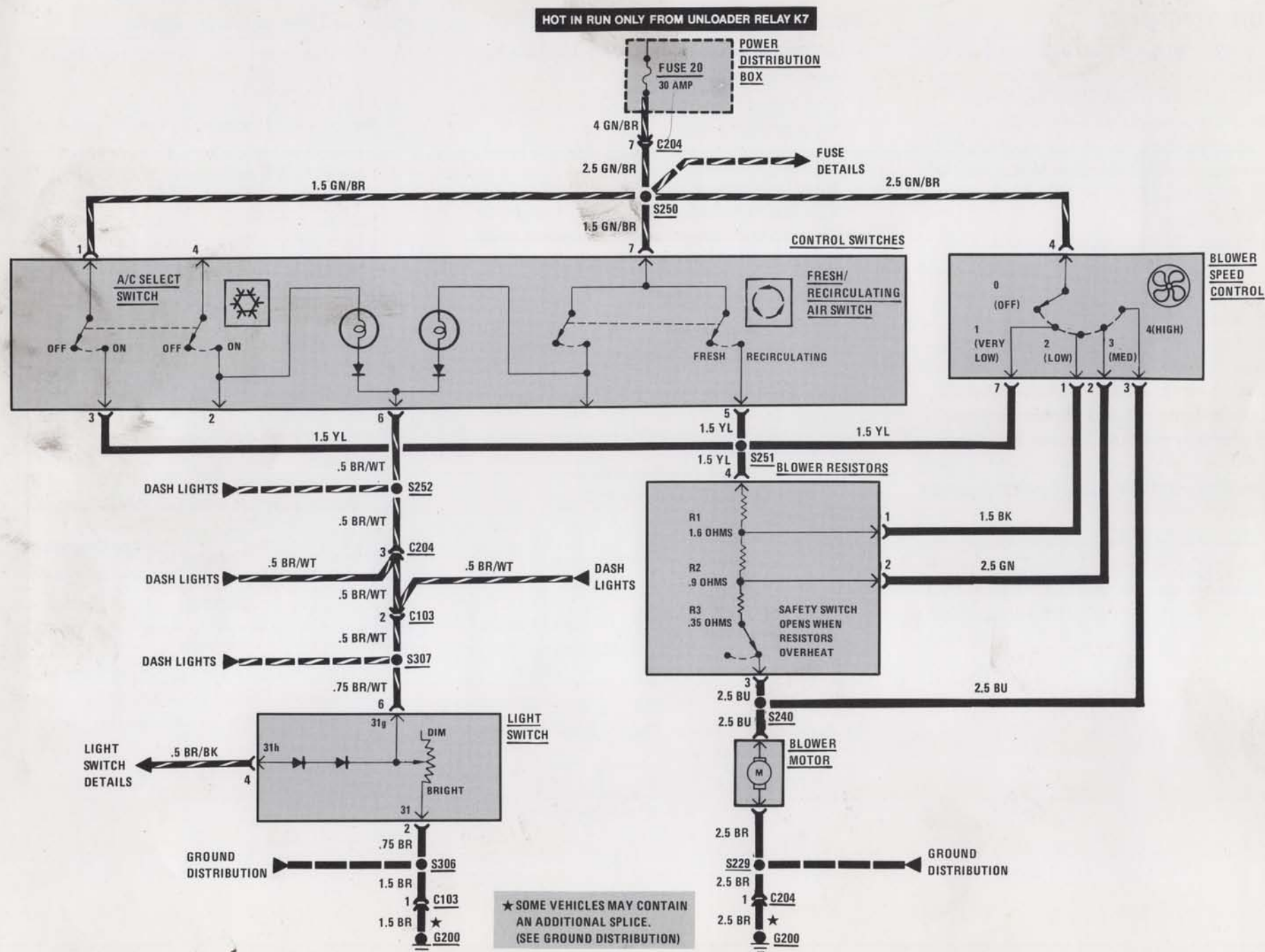
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- If all voltages are correct, replace the Water Shut-Off Solenoid.
- 1. Check the BU wire and A/C In-Line Fuse for an open. If wire and Fuse are good, go to Table 2.
- 2. Check the BR wire for an open to ground. Check that connector C204 is properly mated.
- 3. Check BU wire for a wire-to-wire short to voltage. If wire is good, replace the A/C Control Panel TEMP Control.

WATER SHUT-OFF SOLENOID TEST (TABLE 2)

Measure: VOLTAGE At: HOT WATER CUT-OFF SWITCH CONNECTOR (Disconnected) Conditions: • Ignition Switch: RUN • Water Shut-Off Solenoid: CONNECTED		
Measure Between	Correct Voltage	For Diagnosis
GN/BR & Ground	Battery	See 1
GN/BR & BU	Battery	See 2
• If both voltages are correct, replace the A/C Control Panel TEMP Control.		
1. Check the GN/BR wire for an open back to Fuse 20.		
2. Check the BU wire for an open.		



CIRCUIT OPERATION

With the Ignition Switch in RUN, battery voltage is applied to the Control Switches and the Blower Speed Control through the GN/BR wires. If either the A/C Select Switch or the Fresh/Recirculating Air Switch are ON or the Blower Speed Control is in position 1, battery voltage is applied through the YL wire to the Blower Resistors and the Blower Motor.

The Blower Motor is a variable speed motor which runs at a speed proportional to the voltage applied to it. With all of the Blower Resistors in the circuit, the voltage applied to the motor is reduced so the motor runs at a low speed.

As the Blower Speed Control is moved through positions 2 and 3, some of the resistors are bypassed, allowing more voltage to be applied to the Blower Motor, which then runs at a higher speed. When the Blower Speed Control is moved to position 4, battery voltage is applied directly to the Blower Motor, which then runs at maximum speed.

The Blower Resistors dissipate heat because of the current flowing through them. They are cooled by the air flow from the blower. If there is insufficient air flow to cool the resistors, the safety switch will open, shutting the Blower Motor off until the resistors have cooled.

TROUBLESHOOTING HINTS

- Try the following checks before doing the System Diagnosis.
- 1. Check Fuse 20 by visual inspection.
- 2. If Blower will run in high only, check the Blower Resistors' Safety Switch for an open.
- Go to Heating and Air Conditioning (6410-0) System Check for a guide to normal operation.
- Go to System Diagnosis for diagnostic tests.

SYSTEM DIAGNOSIS

- Do the tests listed for your symptom in the Symptom Table below.
- Tests follow the Symptom Table.

SYMPTOM TABLE

SYMPTOM	DO TEST
Blower Motor does not run in any speed setting.	B
Blower runs only in HIGH (does not run in any other speed setting).	B
Blower does not run in some modes.	A
Blower does not run with A/C ON or in Recirculating mode.	A
A/C Select Switch or Fresh/Recirculating Air Switch does not light.	A

A: CONTROL SWITCH VOLTAGE TEST

Measure: VOLTAGE

At: CONTROL SWITCHES CONNECTOR
(Disconnected)

Conditions:

- Ignition Switch: RUN
- Blower Speed Control: OFF

Measure Between	Correct Voltage	For Diagnosis
1 (GN/BR) & Ground	Battery	See 1
1 (GN/BR) & 3 (YL)	Battery	See 2 & 4
7 (GN/BR) & Ground	Battery	See 1
7 (GN/BR) & 5 (YL)	Battery	See 2 & 4
7 (GN/BR) & 6 (BR/WT)	Battery	See 3

- If all voltages are correct, do Test B.
- 1. Check the GN/BR wire for an open.
- 2. Check the YL wire for an open.
- 3. Check the BR/WT wire for an open.
- 4. If voltage is not present between the GN/BR wire and both the YL wires (terminals 3 and 5), do Test B.

B: BLOWER SPEED CONTROL TEST**Measure: VOLTAGE****AT: BLOWER SPEED CONTROL
CONNECTOR (Disconnected)****Conditions:**

- Ignition Switch: RUN
- A/C Select Switch: ON (Depressed)
- Fresh/Recirculating Air Switch: FRESH (Not Depressed)

Measure Between	Correct Voltage	For Diagnosis
4 (GN/BR) & Ground	Battery	See 1
7 (YL) & Ground	Battery	See 2
• A/C Select Switch: OFF (Not Depressed)		
7 (YL) & Ground	0 Volts	See 3
4 (GN/BR) & 7 (YL)	Battery	See 4, 8, 9, & 10
4 (GN/BR) & 1 (BK)	Battery	See 5, 8, 9, & 10
4 (GN/BR) & 2 (GN)	Battery	See 6, 8, 9, & 10
4 (GN/BR) & 3 (BU)	Battery	See 7 & 10

- If all voltages are correct, replace the Blower Motor.

1. Check the GN/BR wire for an open.
2. Check the YL wire for an open between Blower Speed Control and splice S231.
3. Check the YL wire for a wire to wire short to voltage.
4. Check the YL wire for an open between splice S231 and the Blower Resistors.

(Continued from previous column)

5. Check the BK wire for an open.
6. Check the GN wire for an open.
7. Check the BU wire for an open.
8. If voltage is not present at the YL wire, but is present at the GN wire or BK wire, replace the Blower Resistors.
9. If voltage is not present at the YL, BK or GN wires, check for an open Blower Resistors' Safety Switch.
10. If voltage is not present at the YL, BK, GN and BU wires, do Test C.

C: BLOWER MOTOR TEST**Measure: VOLTAGE****At: BLOWER MOTOR CONNECTOR
(Disconnected)****Conditions:**

- Ignition Switch: RUN
- A/C Select Switch: ON
- Blower Speed Control: HIGH

Measure Between	Correct Voltage	For Diagnosis
BU & Ground	Battery	See 1
BU & BR	Battery	See 2

- If both voltages are correct, replace the Blower Motor.

1. Check the BU wire for an open. If wire is good, recheck Test B.
2. Check the BR wire to ground G200 for an open.

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POWER DISTRIBUTION BOX
FUSE 20
30 AMP

4 GN/BR
7
2.5 GN/BR
C204
FUSE DETAILS

.5 GN/BR
1.5 GN/BR
7
S250

CONTROL SWITCHES
A/C SELECT SWITCH
FRESH
RECIRCULATING
FRESH/RECIRCULATING AIR SWITCH

6
G200
SEE HEATING AND AIR CONDITIONING (BLOWER CONTROLS)

.5 GN

RH SIDE
RECIRCULATING AIR
FRESH AIR
A
B

PLENUM
AIR TO BLOWER MOTOR

LH SIDE
RECIRCULATING AIR
FRESH AIR
A
B

RH FRESH/RECIRCULATING AIR RELAY
87
30
87a
86
85
.5 BR

.5 WT
1
WT
RH
YL
2
.5 YL

.5 WT
2
WT
LH
YL
1
.5 YL

FRESH/RECIRCULATING AIR FLAP DOOR MOTORS

.5 BR
S229
2.5 BR
1
C204
2.5 BR
★
G200
GROUND DISTRIBUTION

LH FRESH/RECIRCULATING AIR RELAY
86
87
85
30
87a
.5 BR

★ SOME VEHICLES MAY CONTAIN AN ADDITIONAL SPLICE. (SEE GROUND DISTRIBUTION)

★ SOME VEHICLES MAY CONTAIN
AN ADDITIONAL SPLICE.
(SEE GROUND DISTRIBUTION)

CIRCUIT OPERATION

When the Ignition Switch is in RUN, battery voltage is applied to terminal 7 of the Control Switches, the normally open contacts of the LH Fresh/Recirculating Air Relay, and the normally closed contacts of the RH Fresh/Recirculating Air Relay. If the Fresh/Recirculating Air Switch is not depressed (open), battery voltage is applied through the normally closed contacts of the RH Fresh/Recirculating Air Relay to both Fresh/Recirculating Air Flap Door Motors and then to ground through the normally closed contacts of the LH Fresh/Recirculating Air Relay. Both motors operate and move the Fresh/Recirculating Air Flap Doors to position A, allowing fresh air to enter the blower.

When the Fresh/Recirculating Air Switch is depressed (closed), battery voltage is applied through the switch to both the LH and RH Fresh/Recirculating Air Relay coils. Both relays are energized. Battery voltage is then applied through the closed contacts of the LH Fresh/Recirculating Air Relay to the Flap Door Motors, and to ground through the closed contacts of the RH Fresh/Recirculating Air Relay. Since the voltage is now applied to the Flap Door Motors in the opposite direction, the motors reverse direction and move the Fresh/Recirculating Air Flap Doors to position B, allowing only recirculating air to enter the blower. Both of the Air Flap Door Motors remain energized continuously. When the doors reach the end of their travel, the motors stall and hold the doors in position.

TROUBLESHOOTING HINTS

- Try the following checks before doing the System Diagnosis.
- 1. Check that LH and RH Fresh/Recirculating Air Relays are firmly seated.
- 2. Check that LH and RH Fresh/Recirculating Air Relay pigtail connectors are properly mated.
- Go to Heating and Air Conditioning (6410A-0) System Check for a guide to normal operation.
- Go to System Diagnosis for diagnostic tests.

SYSTEM DIAGNOSIS

- Do the tests below if the Fresh/Recirculating Air Flap Doors do not operate.

A: FRESH/RECIRCULATING AIR FLAP DOOR MOTOR VOLTAGE TEST

Measure: VOLTAGE

At: FRESH/RECIRCULATING AIR FLAP DOOR MOTOR PIGTAIL CONNECTORS (Disconnected)

Conditions:

- Ignition Switch: RUN
- Fresh/Recirculating Air Switch: RELEASED (FRESH)

Measure Between	Correct Voltage	For Diagnosis
WT and Ground	Battery	See 1
WT and YL	Battery	See 2
• Fresh/Recirculating Air Switch: DEPRESSED (RECIRCULATING)		
YL and Ground	Battery	See 3

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YL and WT	Battery	See 3
• If all voltages are correct, replace the inoperative motor.		
1. Check the WT wire for an open. If wire is good, do Test B for RH Air Relay.		
2. Check the YL wire for an open. If wire is good, do Test B for LH Air Relay.		
3. Do Test B for both Air Relays.		

B: FRESH/RECIRCULATING AIR RELAY VOLTAGE TEST

Measure: VOLTAGE

At: FRESH/RECIRCULATING AIR RELAY CONNECTOR (Disconnected)

Conditions:

- Ignition Switch: RUN
- Fresh/Recirculating Air Switch: DEPRESSED (RECIRCULATING)
- Fresh/Recirculating Air Flap Door Motor Connectors: CONNECTED

Measure Between	Correct Voltage	For Diagnosis
87 (GN/BR) and Ground	Battery	See 1
86 (GN) and Ground	Battery	See 2
86 (GN) and 85 (BR)	Battery	See 3
86 (GN) and 87a (BR)	Battery	See 3

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- If all voltages are correct, replace the suspect Fresh/Recirculating Air Relay.
- 1. Check the GN/BR wire for an open.
- 2. Check the GN wire back to the Control Switches for an open. If wire is good, do Test C.
- 3. Check the BR wire for an open.

C: CONTROL SWITCHES VOLTAGE TEST

Measure: VOLTAGE

At: CONTROL SWITCHES CONNECTOR
(Disconnected)

Condition:

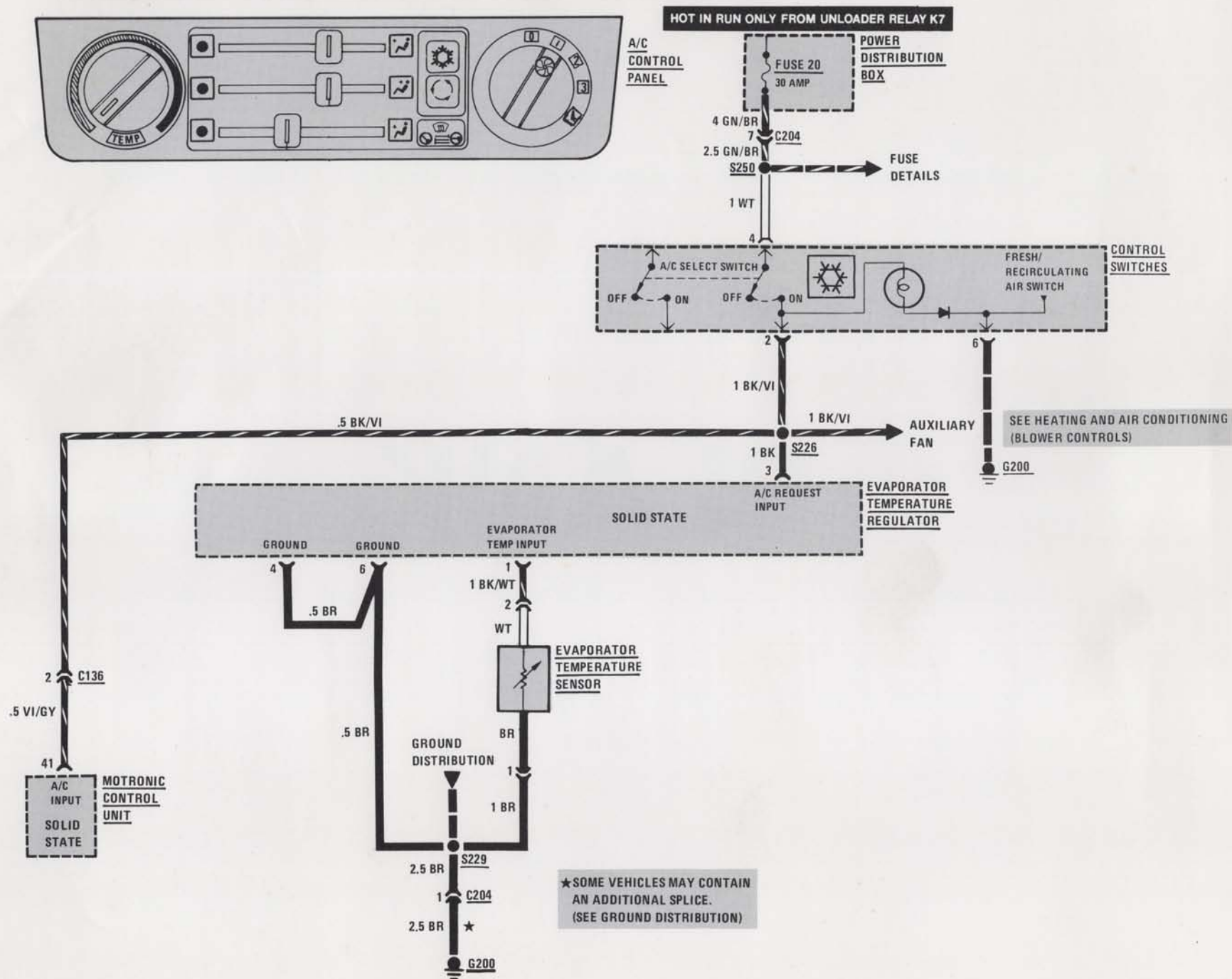
- Ignition Switch: RUN

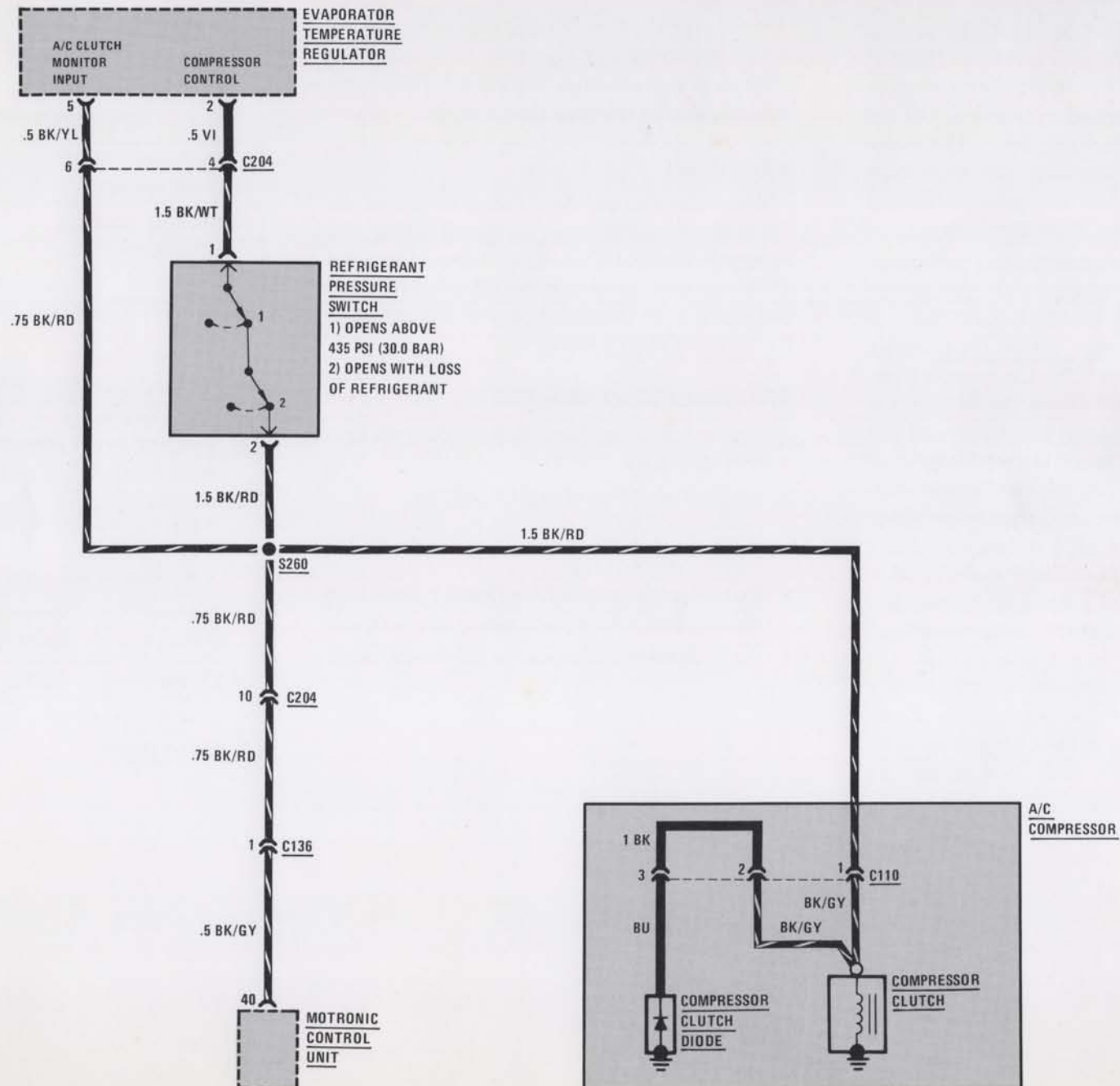
Measure Between	Correct Voltage	For Diagnosis
7 (GN/BR) & Ground	Battery	See 1
7 (GN/BR) & 8 (GN)	Battery	See 2

- If both voltages are correct, replace the Control Switches.
- 1. Check the GN/BR wire for an open. If wire is good, check that connector C204 is properly mated.
- 2. Check the GN wire for an open between the Control Switches and the LH and RH Fresh/Recirculating Air Relays.

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HEATING AND AIR CONDITIONING (COMPRESSOR CONTROLS)





CIRCUIT OPERATION

When the Ignition Switch is in RUN, battery voltage is applied through Fuse 20 to the A/C Select Switch. When the A/C Select Switch is pressed, voltage is applied to terminal 3 of the Evaporator Temperature Regulator. The Evaporator Temperature Regulator applies voltage from terminal 2 to the Compressor Clutch through the Refrigerant Pressure Switch.

The Refrigerant Pressure Switch will disengage the Compressor Clutch when refrigerant pressure rises above 435 PSI (30.0 Bar), or when a loss of refrigerant brings the pressure below 21.8 PSI (1.5 Bar). The Evaporator Temperature Regulator will detect the Refrigerant Pressure Switch opening at terminal 5 and will turn off the output voltage at the Compressor Control terminal. The Evaporator Temperature Regulator will not allow the Compressor Clutch to be turned on again until circuit continuity has been restored between terminals 5 and 2. The regulator tests for continuity by momentarily applying voltage at the Compressor Control every 8 to 10 seconds. Voltage at the A/C Clutch Monitor Input indicates continuity. The Evaporator Temperature Regulator will continue to apply voltage at the Compressor Control output, which will energize the Compressor.

Clutch Diode

Whenever the Compressor Clutch is de-energized, the collapsing magnetic field induces a voltage in the winding. The Clutch Diode provides a path for the resulting current.

A/C On Input

When the Compressor Clutch is turned on, voltage is applied to terminal 29 of the Motronic Control Unit. The Motronic Control Unit uses this signal increase idle speed to compensate for the increased engine load from the Compressor Clutch engaging.

TROUBLESHOOTING HINTS

- Try the following checks before doing the System Diagnosis.
 1. Check Fuse 20 by visual inspection.
 2. Check that Compressor Clutch connector is firmly seated.
- Go to Heating and Air Conditioning (6410A-0) System Check for a guide to normal operation.
- Go to System Diagnosis for diagnostic tests.

SYSTEM DIAGNOSIS

- Do the tests listed for your symptom in the Symptom Table below.
- Tests follow the Symptom Table.

SYMPTOM TABLE

Compressor Clutch does not engage	A
Engine idle speed is not high enough when Compressor Clutch engages	D

A: A/C ISOLATION TEST (TABLE 1)

Measure: VOLTAGE At: EVAPORATOR TEMPERATURE REGULATOR (Disconnected) Conditions: • Ignition Switch: RUN (Engine need not be running) • A/C Selector Switch: ON (Depressed)		
Measure Between	Correct Voltage	For Diagnosis
3 & Ground	Battery	See 1
• If voltage is correct, go to Table 2. 1. Go to Test E.		

A: A/C ISOLATION TEST (TABLE 2)

Connect: FUSED JUMPER At: EVAPORATOR TEMPERATURE REGULATOR (Disconnected)		
Conditions: • Ignition Switch: RUN • A/C Selector Switch: ON (Depressed)		
Connect Across	Correct Result	For Diagnosis
2 & 3	Compressor Clutch Engages	See 1
If result is correct go to Test C.		
1. Go to Test B.		

B: PRESSURE SWITCH TEST

Measure: RESISTANCE At: EVAPORATOR TEMPERATURE REGULATOR CONNECTOR (Disconnected)		
Conditions: • Ignition Switch: OFF • Negative Battery Terminal: DISCONNECTED		
Measure Between	Correct Resistance	For Diagnosis
2 & Ground	Approximately 3 to 4 ohms	See 1
If measurement is correct replace the Evaporator Temperature Regulator.		
1. Check for an open Refrigerant Pressure Switch, A/C Temperature Switch, or associated wiring (see schematic). If the Refrigerant Pressure Switch is open, check refrigerant pressure to be sure it is normal before replacing the switch. If the switch and related wiring is OK, replace the Compressor Clutch.		

**C: EVAPORATOR TEMPERATURE
REGULATOR VOLTAGE AND
RESISTANCE TEST**

Measure: RESISTANCE At: EVAPORATOR TEMPERATURE REGULATOR CONNECTOR (Disconnected)		
Conditions: • Ignition Switch: OFF • Negative Battery Terminal: DISCONNECTED		
Measure Between	Correct Resistance	For Diagnosis
1 & Ground	Approximately 3.5K to 4.5K ohms at 70 °F (21 °C)	See 1
4 & Ground	Less than 0.5 ohms	See 2
6 & Ground	Less than 0.5 ohms	See 2
5 & 2	Less than 0.5 ohms	See 3
If all resistances are correct but Compressor Clutch does not operate normally, replace the Evaporator Temperature Regulator.		
1. Check the BK/WT wire for an open or a short to ground (see schematic). Check the BR wire for an open (see schematic). If wires are good, replace the Evaporator Temperature Sensor.		
2. Check the BR wire for an open (see schematic).		
3. Check BK/RD for an open between terminal 5 and the Refrigerant Pressure Switch.		

D: IDLE SPEED CONTROL VOLTAGE TEST**Measure: VOLTAGE****At: MOTRONIC CONTROL UNIT
CONNECTOR (Connected — Universal
Adapter)****Conditions:**

- Ignition Switch: RUN
- A/C Control Panel: A/C ON
- Temperature Outside Car: Above 60 degrees F (16 degrees C)

Measure Between	Correct Voltage	For Diagnosis
40 (BK/GY) & Ground	Battery	See 1
41 (VI/GY) & Ground	Battery	See 2

- If the voltage is correct, repair/replace the Motronic Control Unit.
1. Check for an open in the BL/WT and BK/RD wires.
 2. Check for an open in the VI/GY and BK/VI wires.

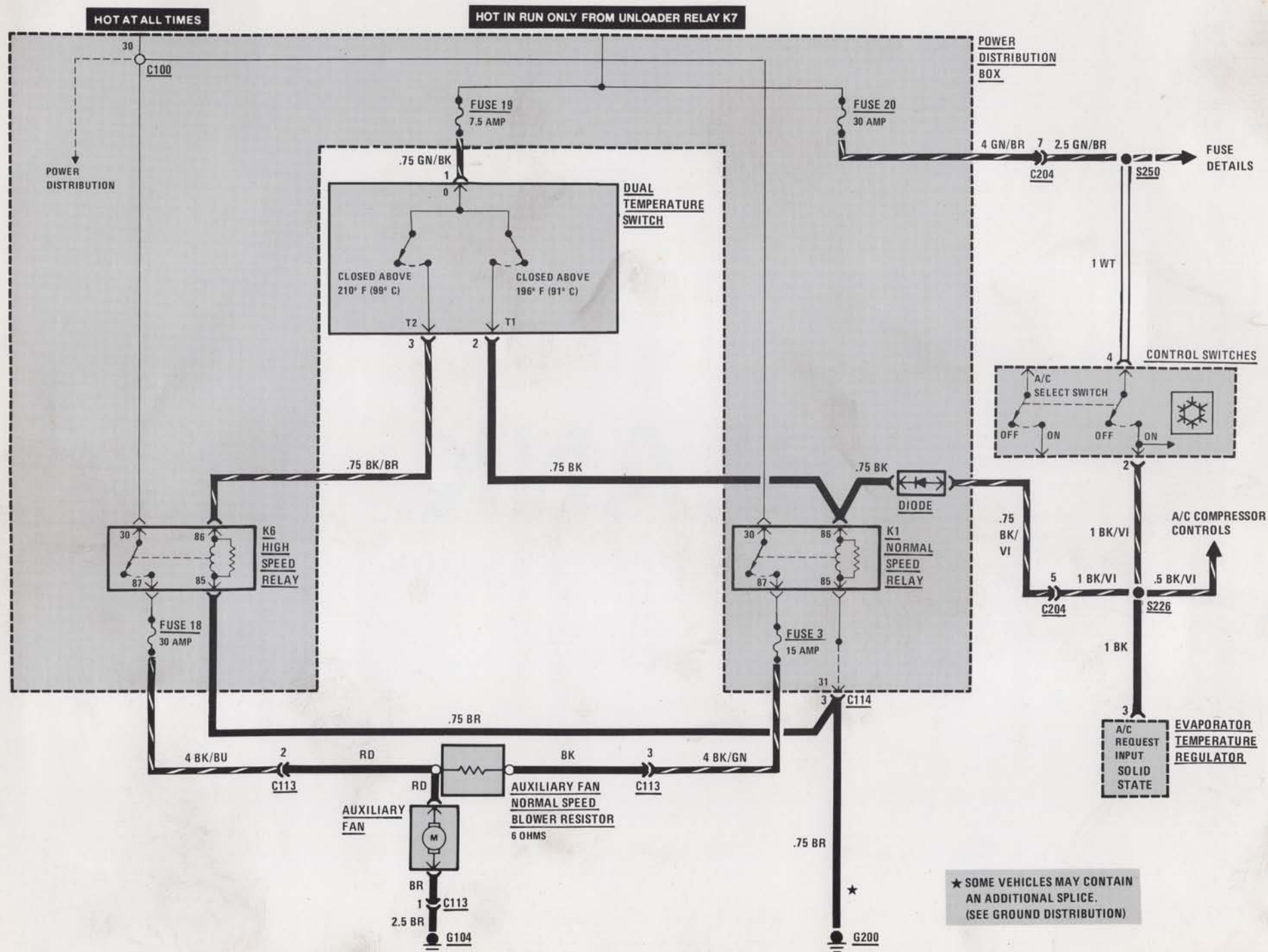
E: A/C SELECT SWITCH VOLTAGE TEST**Measure: VOLTAGE****At: CONTROL SWITCHES CONNECTOR
(Connected)****Conditions:**

- Ignition Switch: RUN
- A/C Control Panel: A/C ON
- Temperature Outside Car: Above 60 degrees F (16 degrees C)

Measure Between	Correct Voltage	For Diagnosis
4 (WT) & Ground	Battery	See 1
2 (BK/VI) & Ground	Battery	See 2

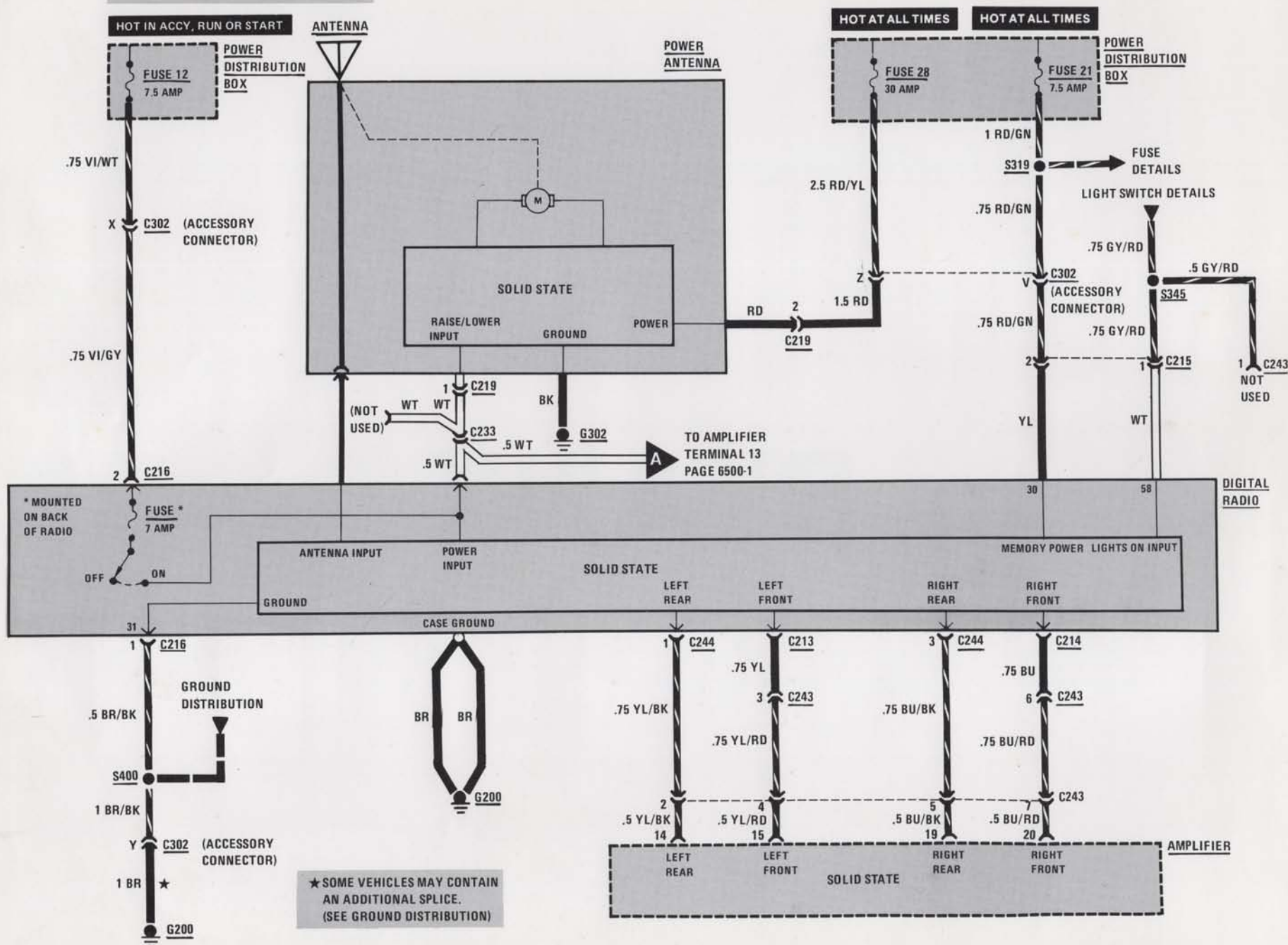
- If both voltages are correct, check connections at Evaporator Temperature Regulator.
1. Check for an open in the WT and GN/BR wires.
 2. Replace the A/C Select Switch.

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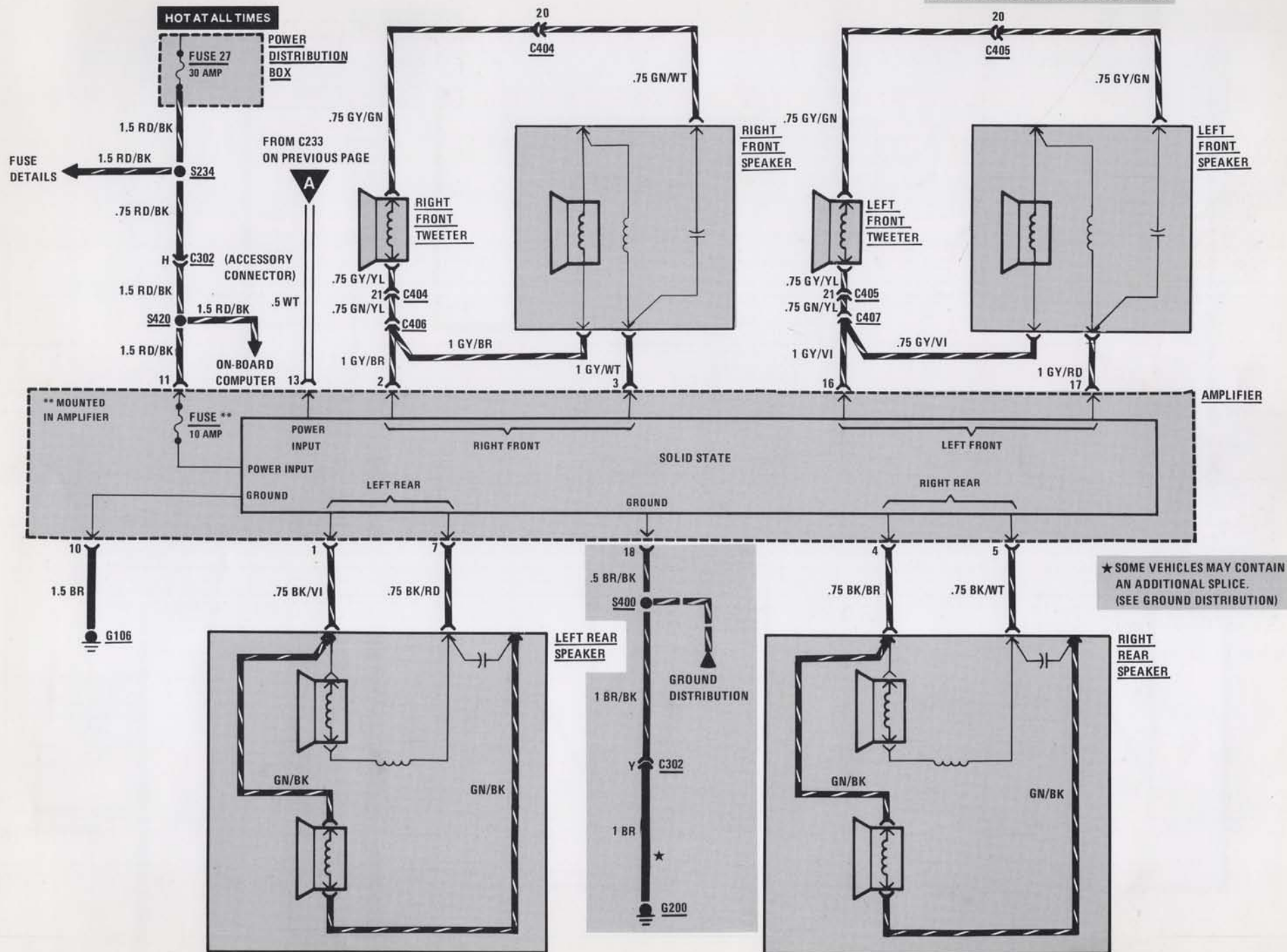


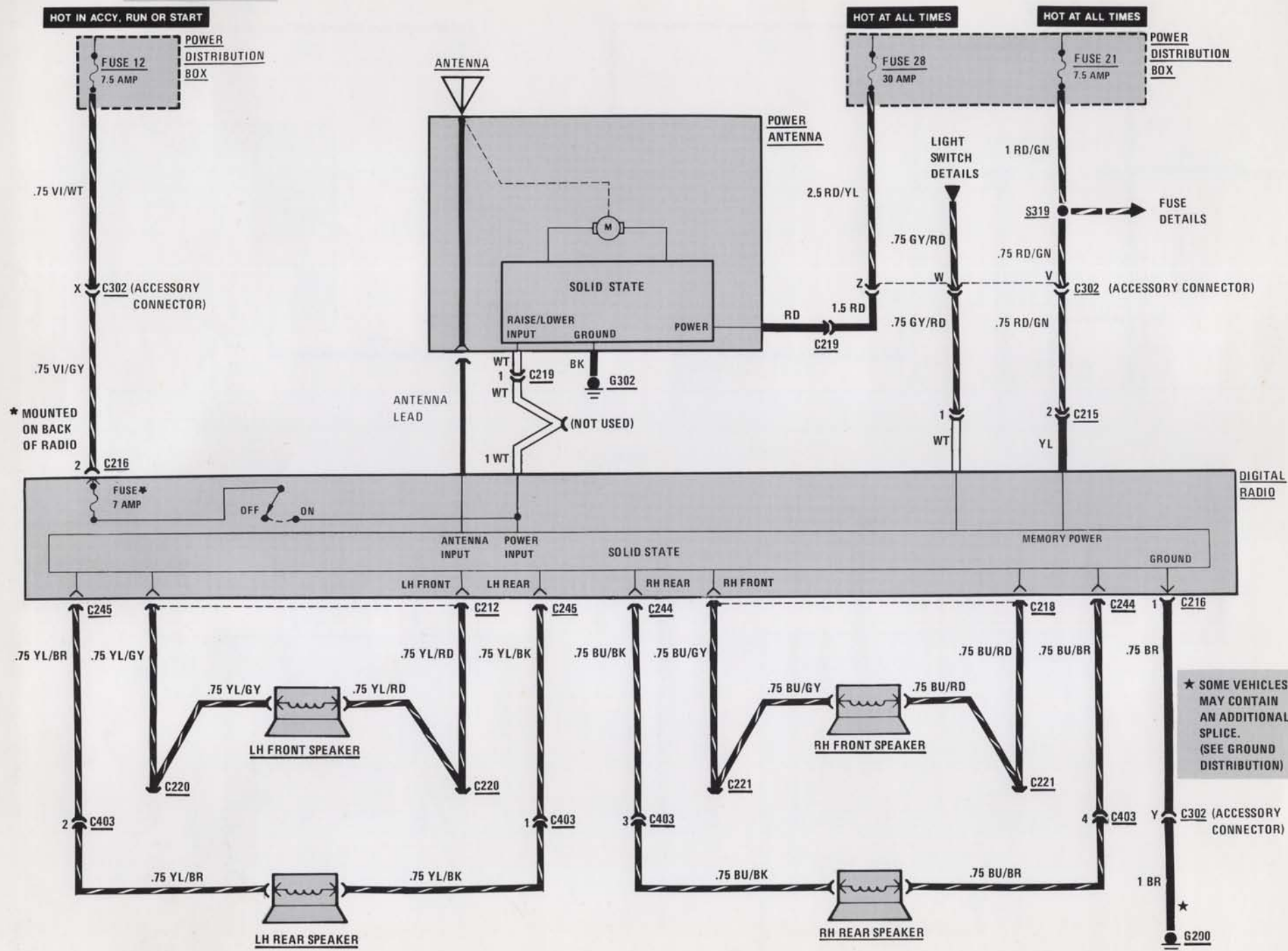
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WITH SOUND SYSTEM



WITH SOUND SYSTEM





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CIRCUIT OPERATION

With the Ignition Switch in ACCY, RUN or START, Fuse 12 provides voltage to turn on the three components in the system. When the Radio Switch is on, voltage is applied to the Radio, the Power Antenna Raise/Lower Input, and the Amplifier. This voltage is used to control the individual unit's main power supply.

When the Raise/Lower Input of the Power Antenna receives voltage, power is supplied from Fuse 28 to run the motor and raise the Antenna. When voltage is no longer present at the Raise/Lower Input, the Antenna is lowered.

Fuse 21 constantly supplies voltage to the Memory Power Input of the Radio. This allows the Radio to maintain the present settings while it is turned off.

The Amplifier receives constant power at terminal 11 from Fuse 27. When the Radio is on, voltage is applied to terminal 13 to enable the Amplifier.

The actual Radio signal originates at the Antenna. It is supplied to the Radio, processed, and output from the Left Channel and Right Channel Outputs. The signal is then input to the Left Front, Left Rear, Right Front and Right Rear Inputs to the Amplifier. After amplification, the signal is output to the corresponding speakers.

TROUBLESHOOTING HINTS

- Try the following checks before doing the System Check.
 1. Check power input to the Radio by observing if Instrument Cluster Indicators light.
 2. Check power input to Antenna by observing the Cigar Lighter.
 3. Check memory power to Radio by checking operation of the Glove Box Light.
 4. Check power input to the Amplifier.
 5. Check that the Antenna is properly connected.
 6. Before troubleshooting a suspect Speaker, check all connections to that Speaker.
 7. If display shows "CODE" and Radio will not operate, the individual Anti-Theft Code must be entered. Refer to "Anti-Theft" instruction booklet.
 8. Check Radio Fuse located on back of Radio.
 9. Check Amplifier Fuse located on back of Amplifier.
 10. For Radios without sound system: If a speaker is inoperative, switch with a good speaker. If still inoperative, check related wiring. Remove Radio for service if wiring is OK.

SYSTEM CHECK

- Use the System Check Table as a guide to normal operation.
- Refer to System Diagnosis for a list of symptoms and diagnostic steps.

SYSTEM CHECK TABLE

ACTION	NORMAL RESULT
With Ignition Switch in RUN, turn Radio ON.	Antenna extends. Digital display lights. Sound is emitted from all Speakers.
Operate Fader Control.	Sound volume varies from front to rear.

- Refer to System Diagnosis when a result is not normal.

SYSTEM DIAGNOSIS

- Do the tests listed for your symptom in the Symptom Table below.
- Tests follow the Symptom Table.

SYMPTOM TABLE

SYMPTOM	FOR DIAGNOSIS
Radio does not work (no display, no sound).	Do Test A
Digital display lights, but there is no sound.	Do Test B
LH Speakers or RH Speakers do not operate.	Do Test C

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Antenna does not extend or retract.	Check ground wire for an open. Make sure ground G302 is clean and tight. Check wire to Power Antenna for opens. If OK, replace Power Antenna.
An individual Speaker does not operate.	Do Test D
Excessive noise comes from all Speakers.	Do Test E

A: RADIO POWER TEST

Measure: VOLTAGE At: RADIO CONNECTOR C216 (Disconnected) or CONNECTOR C215 (Disconnected) Condition: • Ignition Switch: RUN		
Measure Between	Correct Voltage	For Diagnosis
C216 & Ground	Battery	See 1
C216/2 & C216/1	Battery	See 2
C215/2 & Ground	Battery	See 3
• If all voltages are correct, check wire from connector C215 to Radio for an open. If wire is OK, remove Radio for service. 1. Check power input wire for an open 2. Check ground wire for an open to ground. Make sure ground G200 is clean and tight. 3. Check memory power supply wire for an open.		

B: AMPLIFIER POWER TEST

Measure: VOLTAGE At: AMPLIFIER CONNECTOR (Disconnected) Conditions: • Ignition Switch: RUN • Radio: ON		
Measure Between	Correct Voltage	For Diagnosis
11 & Ground	Battery	See 1
11 & 18	Battery	See 2
13 & Ground	Battery	See 3
11 & 10	Battery	See 4
• If all voltages are correct, go to Test C. 1. Check power supply wire for an open. 2. Check Amplifier ground to Amplifier for an open to ground. Make sure ground G200 is clean and tight. 3. Check Amplifier "Radio On" wire for an open. 4. Check wire from terminal 10 for an open to ground. Make sure ground G302 is clean and tight.		

C: FADER SIGNAL TEST (WITH SOUND SYSTEM)

Measure: VOLTAGE At: AMPLIFIER CONNECTOR (Disconnected) Conditions: • Ignition Switch: RUN • Radio: ON		
Measure Between	Correct Voltage	For Diagnosis
14 & Ground	Approximately 6 Volts	See 1
15 & Ground	Approximately 6 Volts	See 1
19 & Ground	Approximately 6 Volts	See 1
20 & Ground	Approximately 6 Volts	See 1
• If all voltages are correct but sound was not present, remove Amplifier for service. 1. Check between Radio and Amplifier for an open in the wiring. If wire is OK, remove Radio for service.		

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D: SUSPECT SPEAKER TEST

Connect: OHMMETER At: SUSPECT SPEAKER (Disconnected) Condition: • Ohmmeter set on Rx 1 scale or Diode Check Scale		
Action	Correct Result	For Diagnosis
Connect Ohmmeter across Speaker Terminals	Speaker "pops"	See 1
• If the result is correct, check wires to the Amplifier or Radio for opens or shorts. If OK, check wires between Amplifier (if equipped) and the Radio. Remove Radio for service. 1. Replace the suspect Speaker.		

E: NOISE DIAGNOSIS

With Radio on and noise present, unplug the Antenna at the back of the Radio.

- If noise is no longer present, it was being picked up by the Antenna. Perform Antenna Noise Test.
- If noise persists, it is coming in the Radio wiring. Refer to the following Noise Symptom Table.

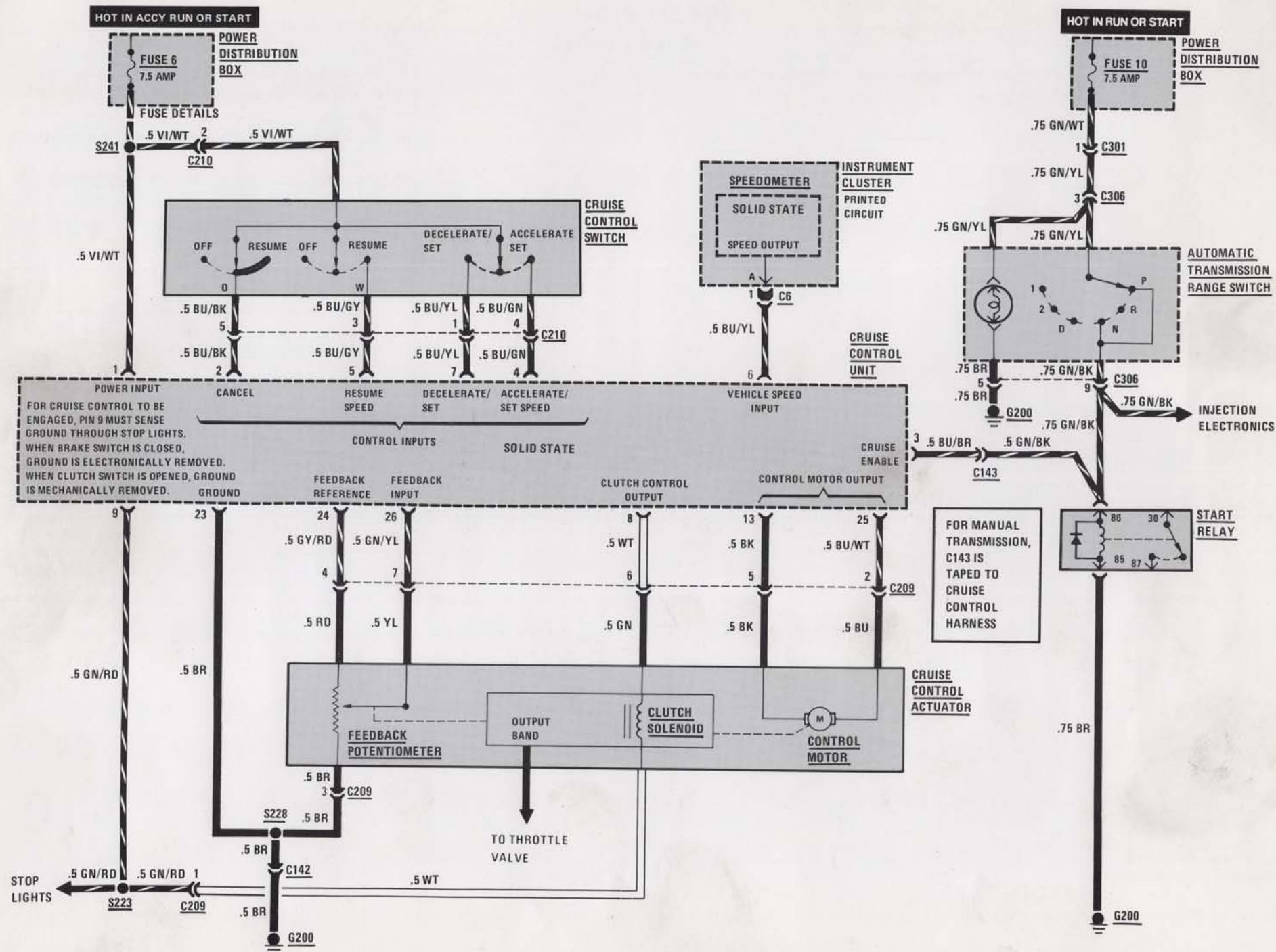
ANTENNA NOISE TEST

Measure: RESISTANCE At: ANTENNA		
Measure Between	Correct Resistance	For Diagnosis
Antenna Plug Base & Ground	Less than 3 Ohms	See 1
Antenna Plug Tip & Antenna Plug Base	Greater than 1 Megohm (open circuit)	See 2
• If both resistances are correct, check the hood ground strap. If OK, substitute different Antenna at Radio. If good, replace Antenna. If noise is still present, refer to Noise Symptom Table. 1. Check ground contact at Antenna base. If necessary, install a braided ground strap from the Antenna Base to Chassis ground. Check for an open in the Antenna Cable. 2. Check for a short to ground at the Antenna or Antenna cable.		

NOISE SYMPTOM TABLE

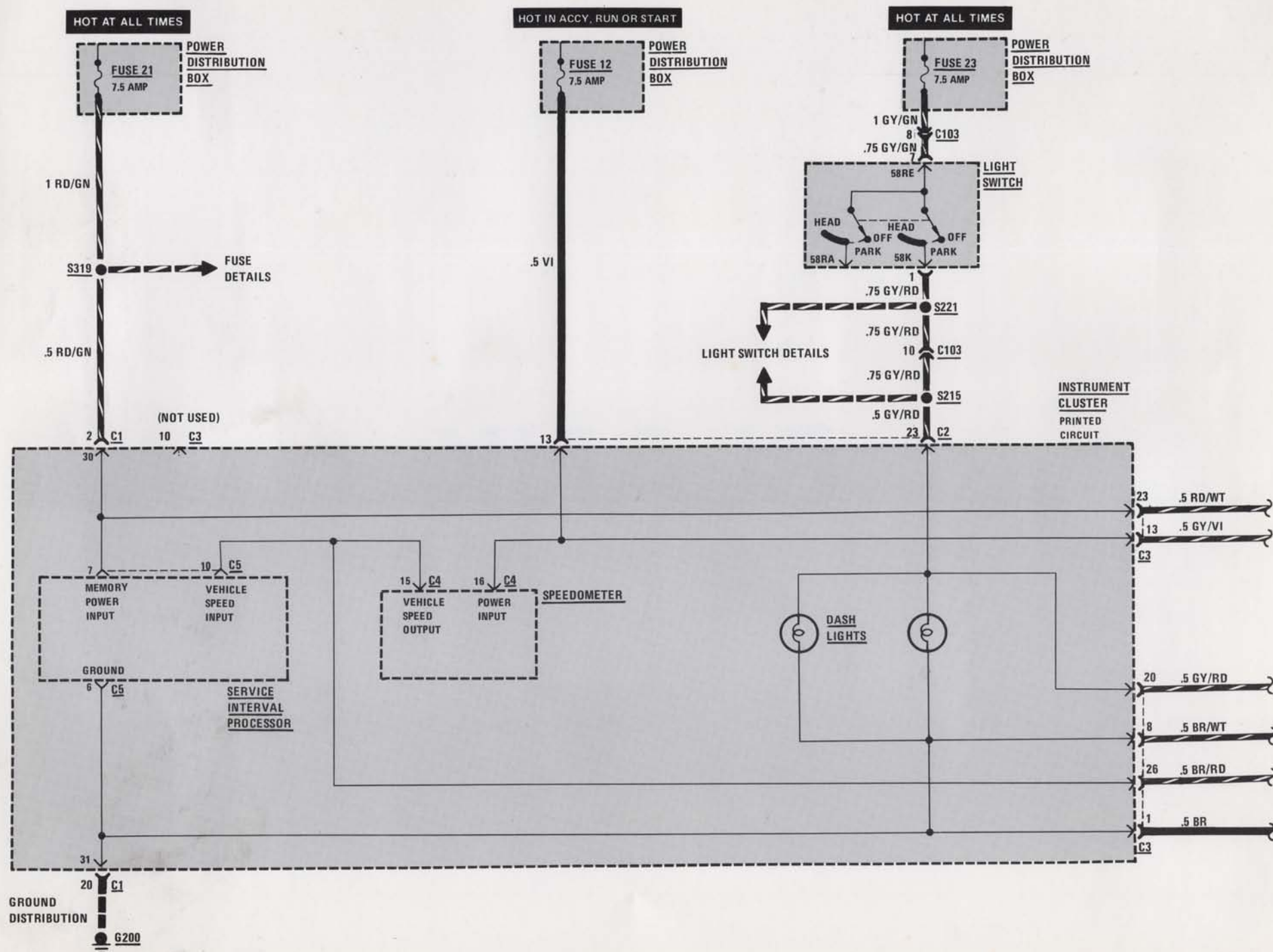
SYMPTOM	POSSIBLE CAUSE	REPAIR ACTION
Harsh popping or crackling noise present when ignition on-changes with engine rpm.	Ignition Noise	• Check for proper distributor cap shielding. • Check shielding ground strap. If not present, install. • Check for defective spark plug or spark plug wire. • Reroute spark plug wires laying against anything that could be transmitting noise to the Radio (wiring or sensor leads traveling into the passenger compartment). • Check engine/firewall ground strap and engine hood/body ground strap. • Check if engine hood is closing properly. • Connect dedicated ground strap to Radio. • Replace distributor cap and rotor.
High whine or howling that changes with engine rpm.	Alternator noise	• Connect dedicated ground strap to Radio. • Run a direct wire from Battery to Alternator.
AM only is weak and noisy.	AM alignment	• Remove Radio for service.
FM only is weak and noisy.	FM alignment	• Remove Radio for service.

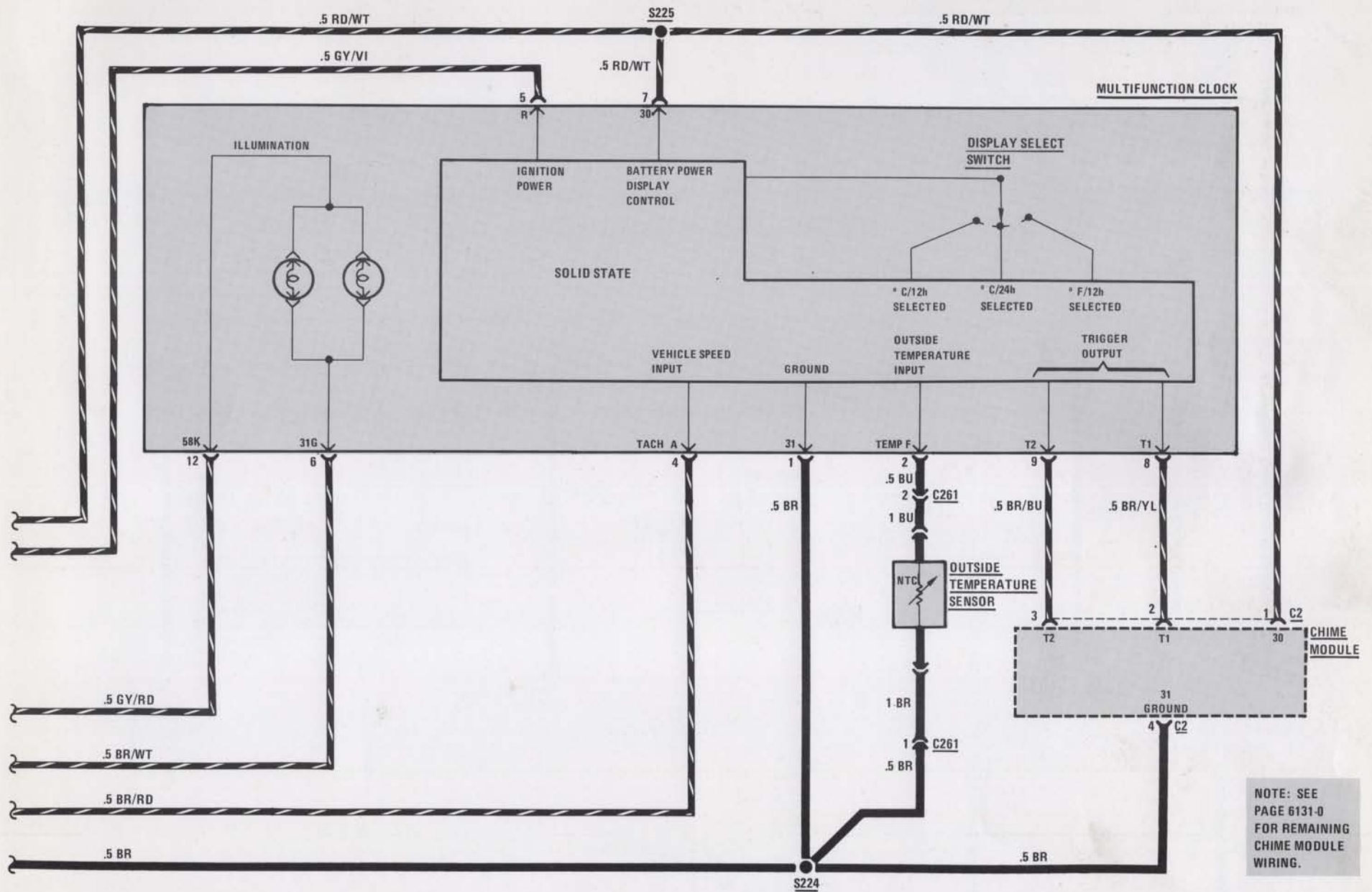
6571-0 CRUISE CONTROL

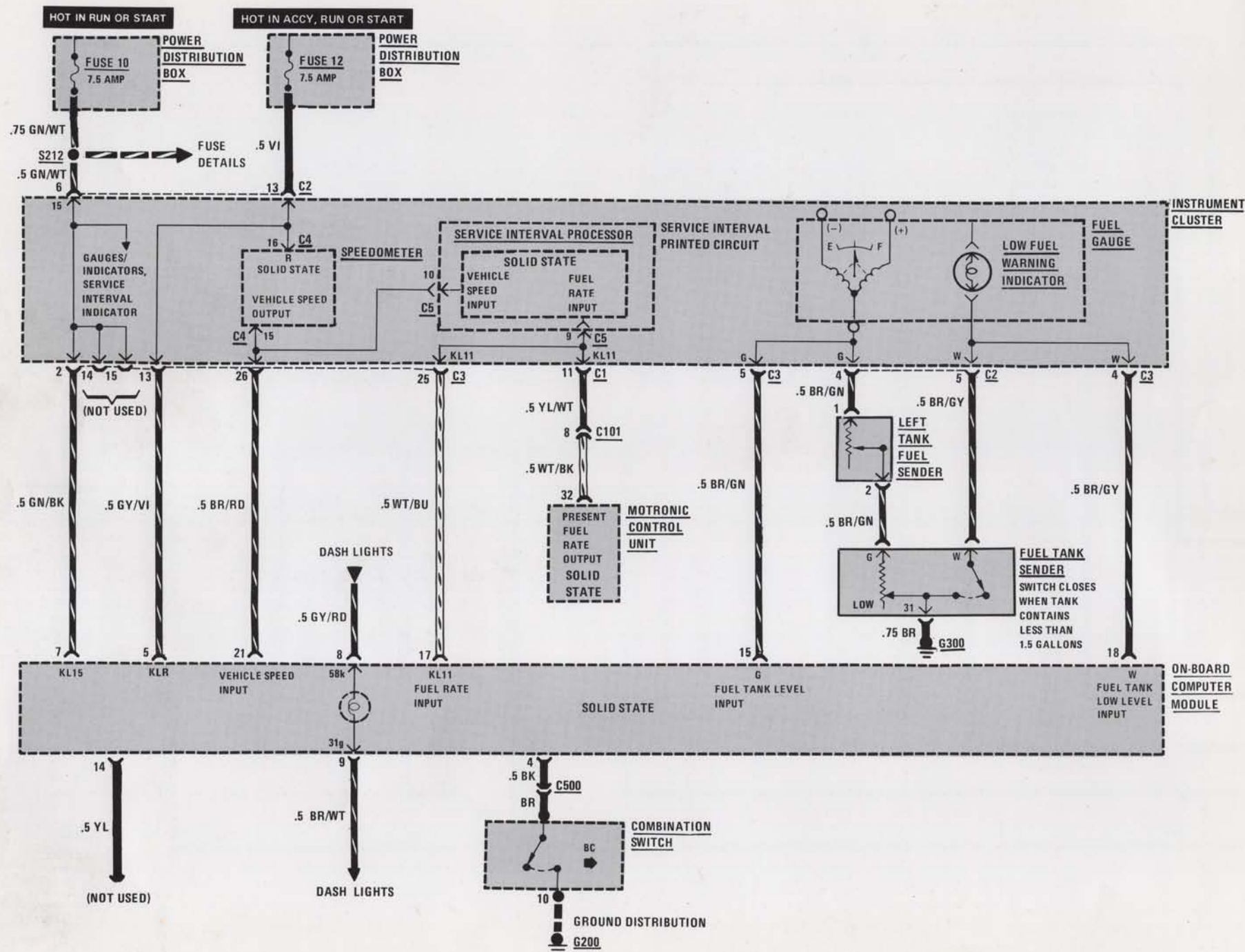


BLANK

6581-0 MULTIFUNCTION CLOCK







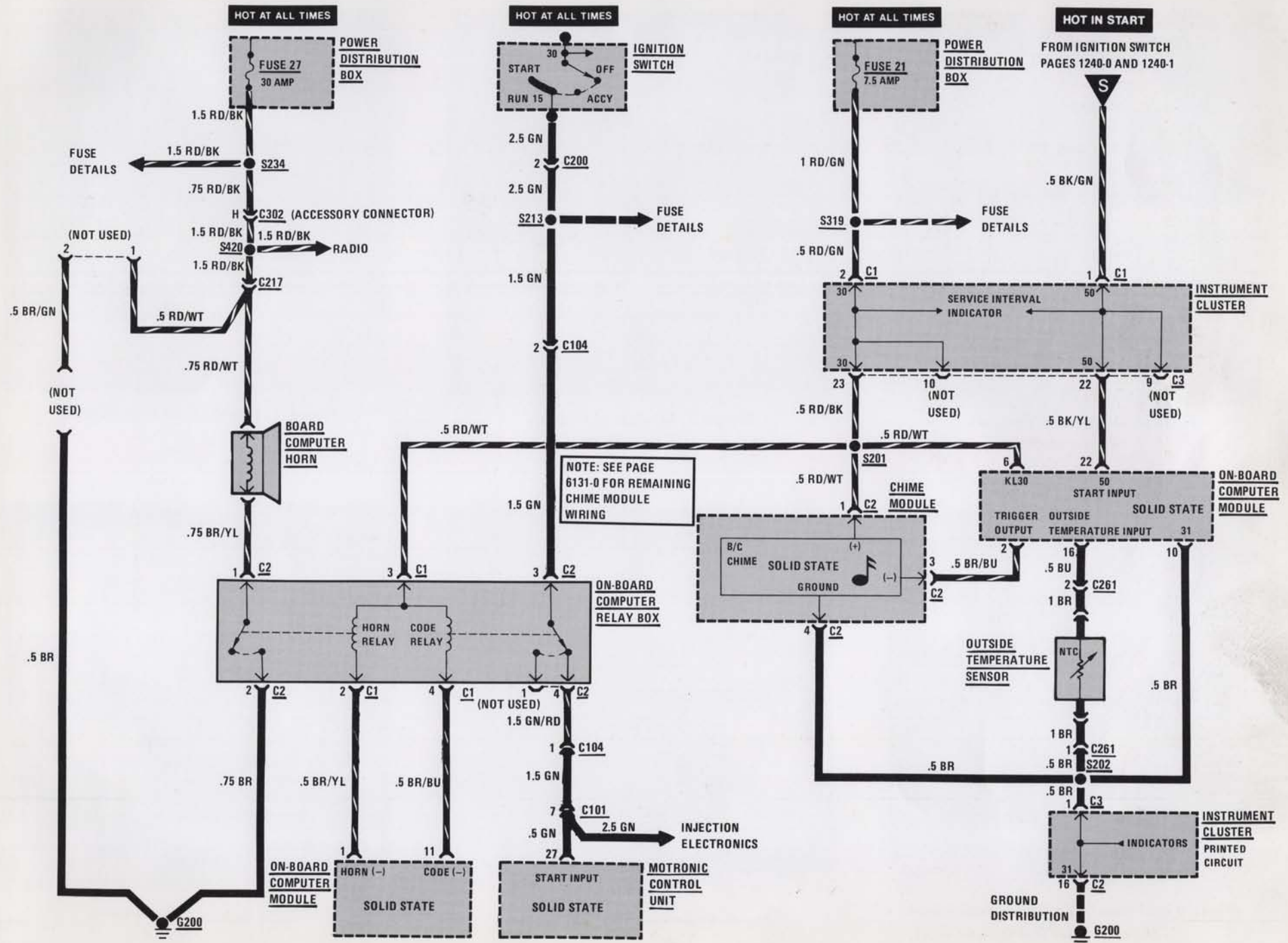




Figure 1 - LH Rear of Engine Compartment



Figure 3 - LH Rear of Engine Compartment

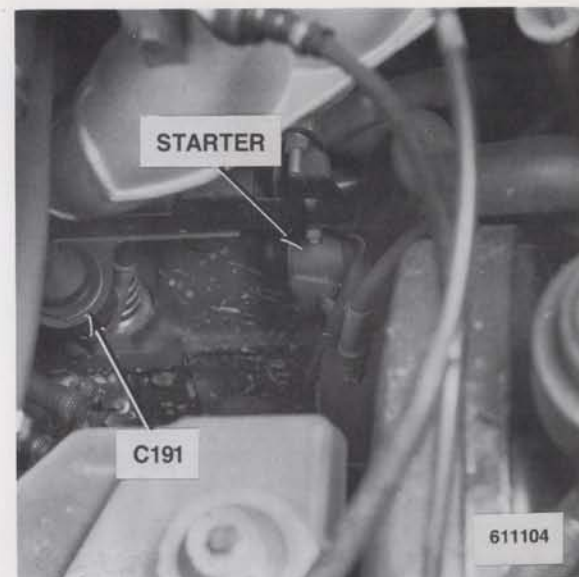


Figure 5 - Lower LH Rear of Engine

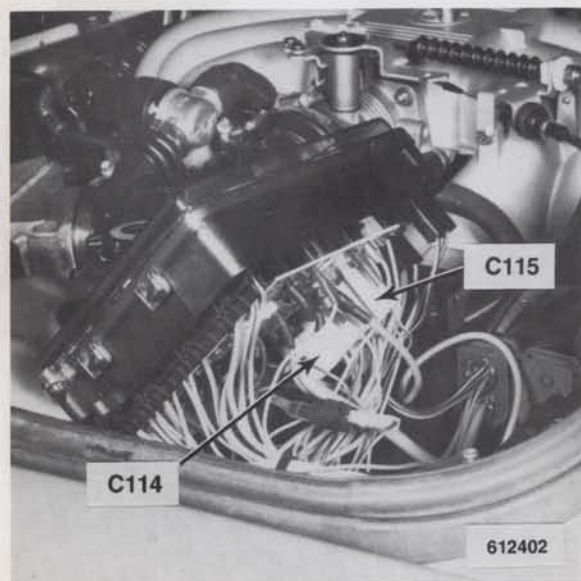


Figure 2 - LH Rear of Engine Compartment (Inside Power Distribution Box)

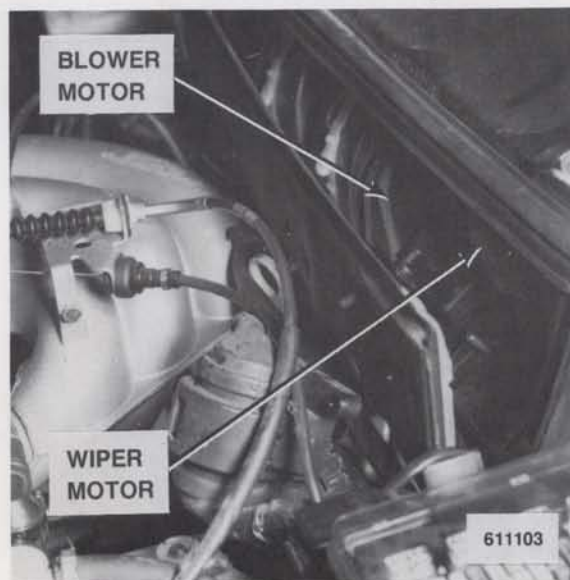


Figure 4 - Behind Fresh Air Intake Cowl



Figure 6 - LH Side of Engine

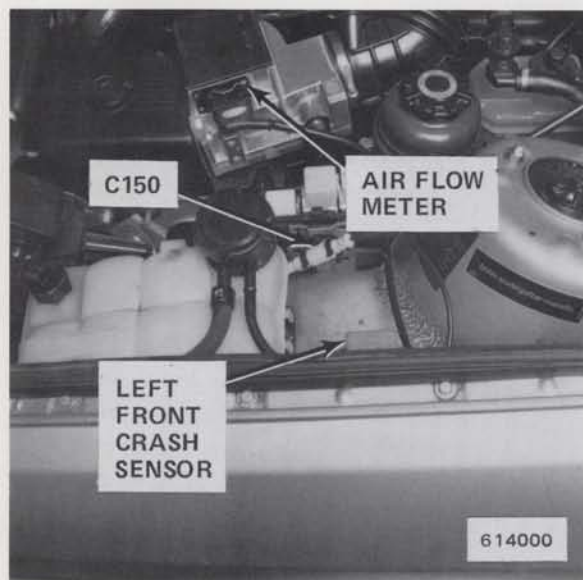


Figure 1 - Forward of LH Shock Tower
(Relay Cover Removed)

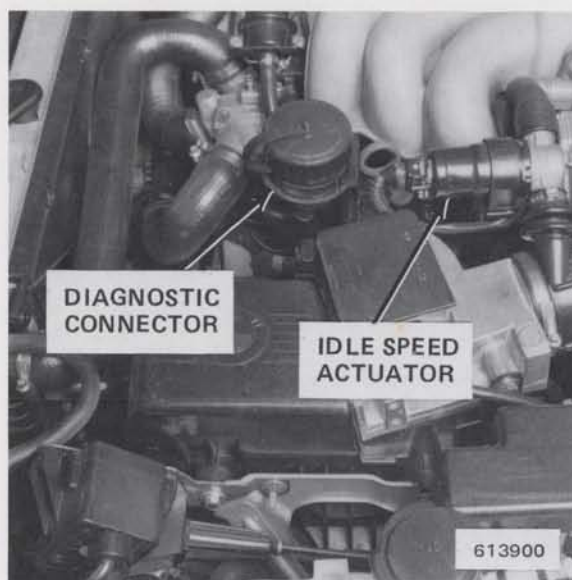


Figure 3 - LH Front of Engine

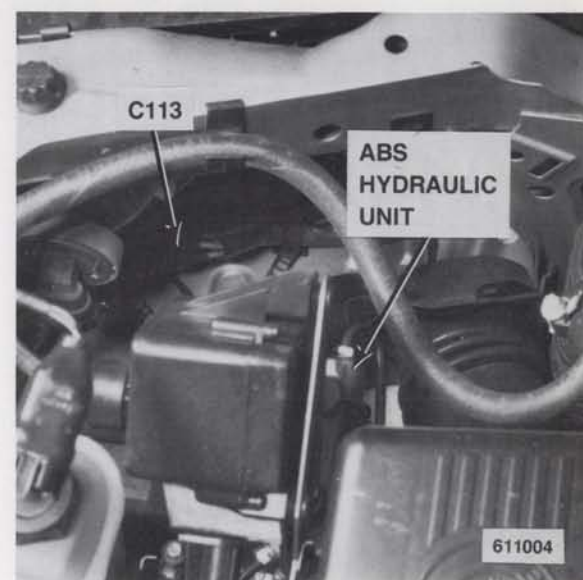


Figure 5 - LH Front Corner of Engine
Compartment

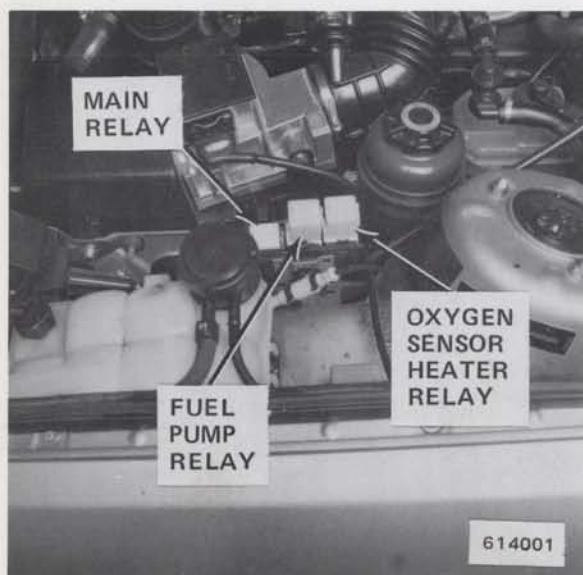


Figure 2 - Forward of LH Shock Tower
(Relay Cover Removed)



Figure 4 - LH Front Corner of Engine
Compartment



Figure 6 - Lower LH Side of Engine

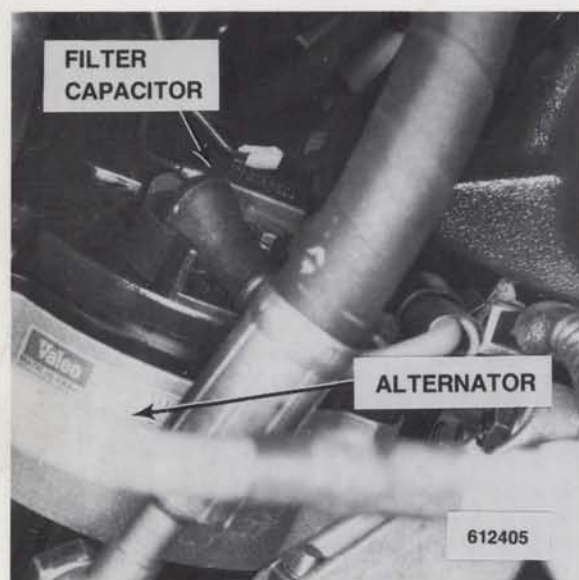


Figure 1 - Lower LH Front of Engine

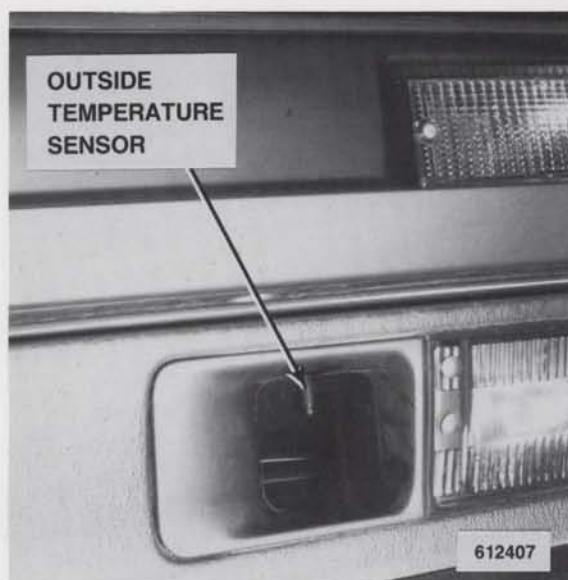


Figure 3 - Behind LH Side of Front Bumper

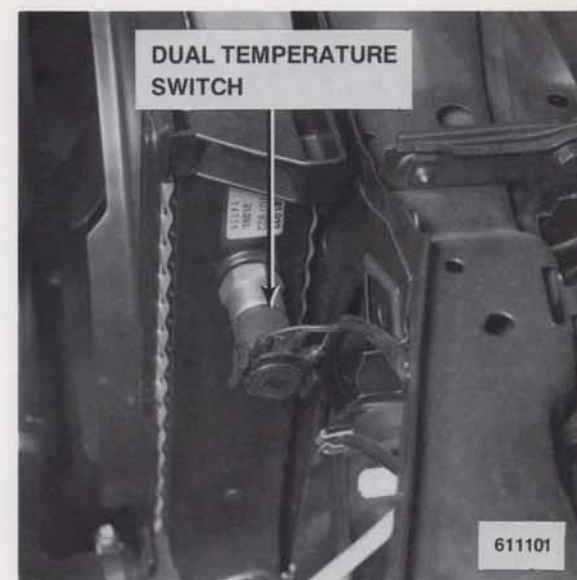


Figure 5 - Top RH Side of Radiator

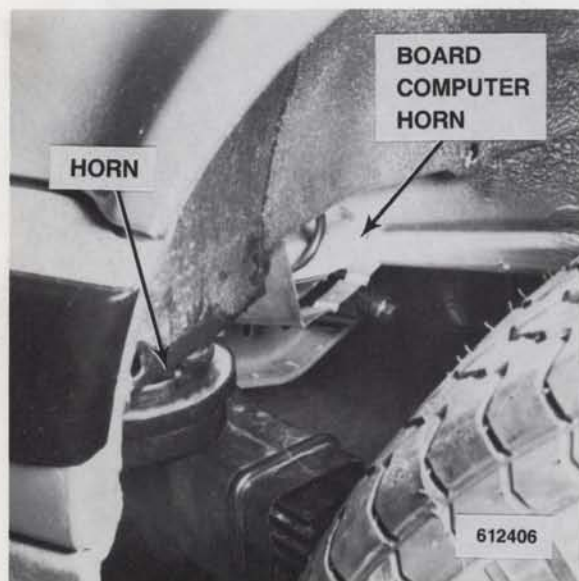


Figure 2 - Behind LH Corner of Front Bumper



Figure 4 - Behind Center of Front Radiator Grille

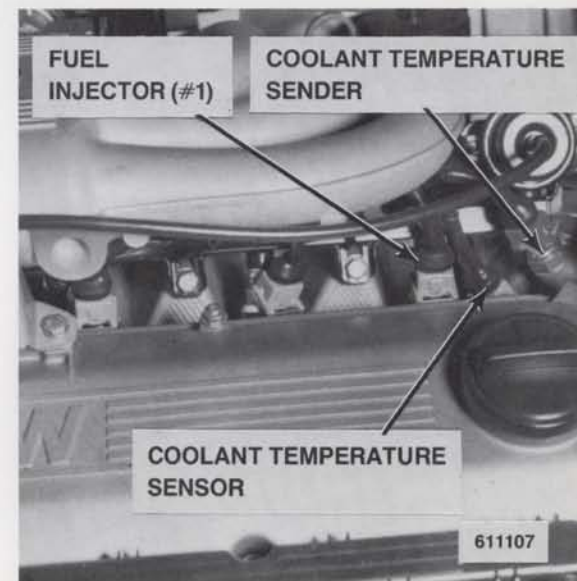


Figure 6 - Top Front of Engine Grille

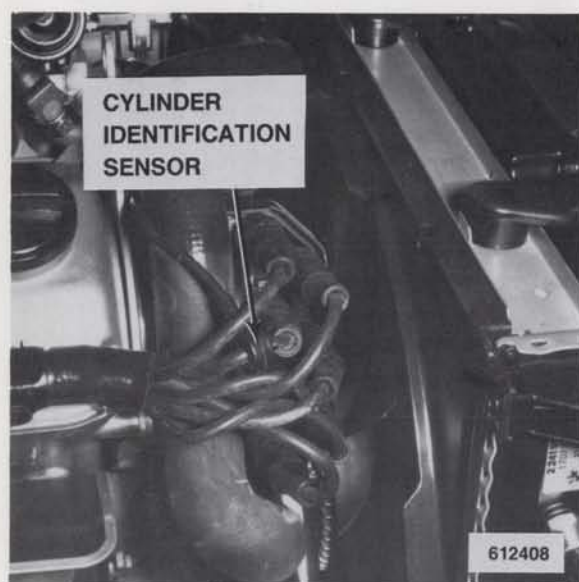


Figure 1 - RH Front of Engine

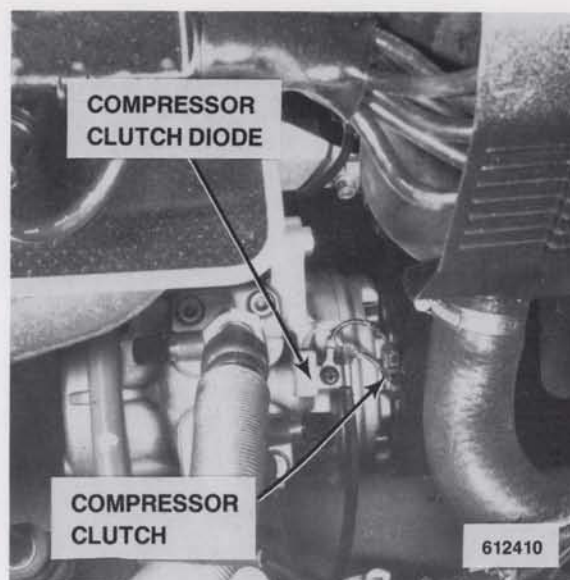


Figure 3 - Lower RH Front of Engine

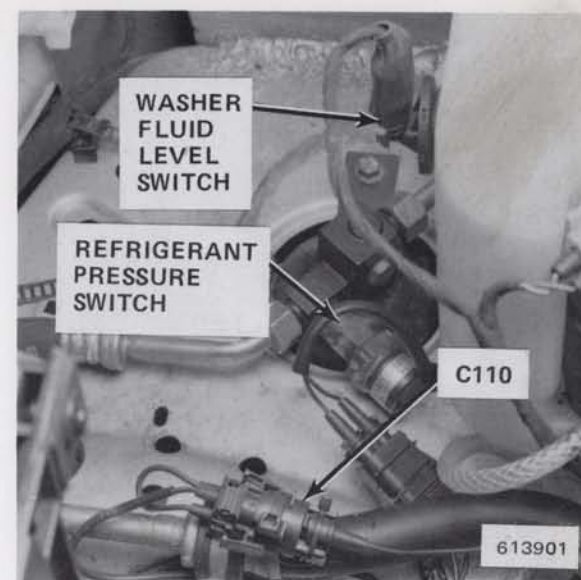


Figure 5 - RH Front Corner of Engine Compartment



Figure 2 - Lower RH Front of Engine

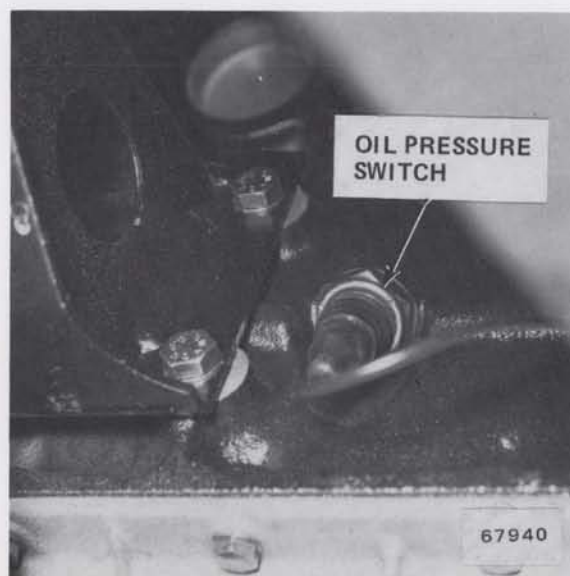


Figure 4 - Lower RH Front of Engine

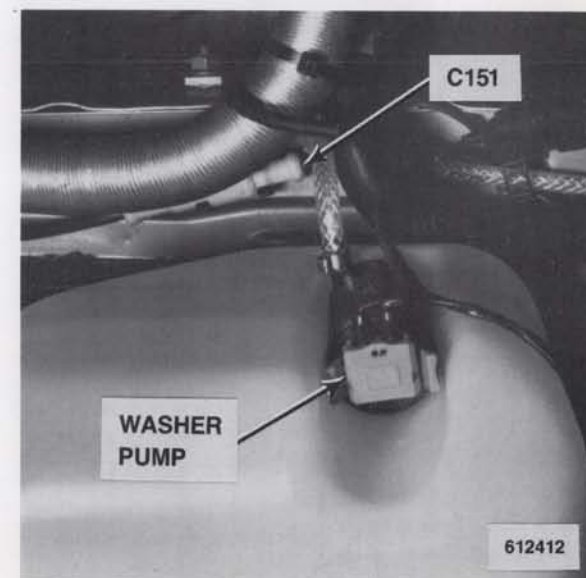


Figure 6 - RH Side of Engine Compartment

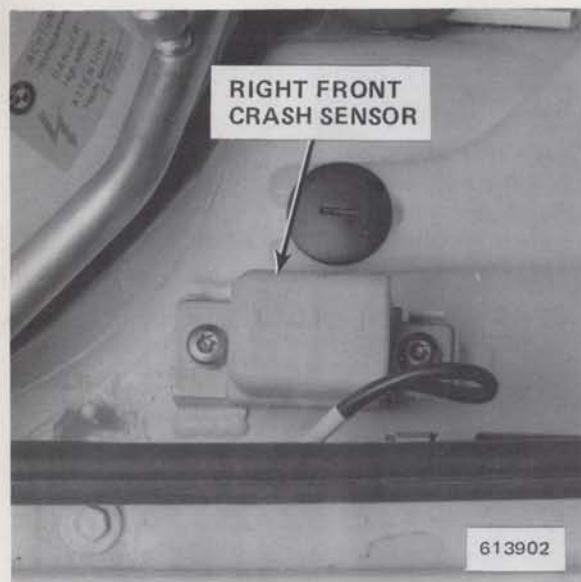


Figure 1 - RH Side of Engine Compartment

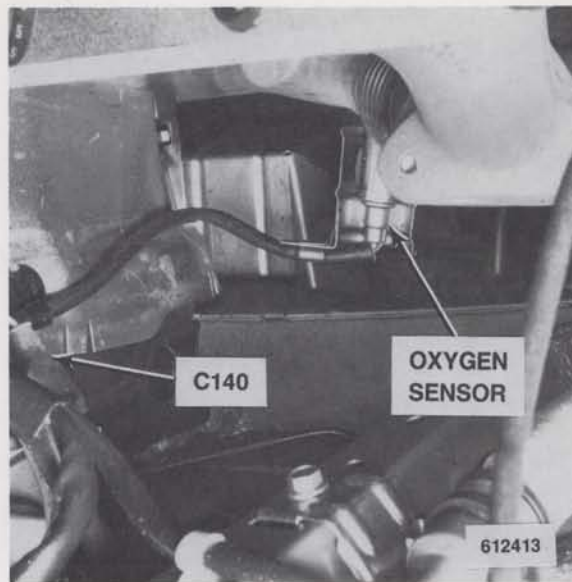


Figure 3 - Lower RH Rear of Engine Compartment

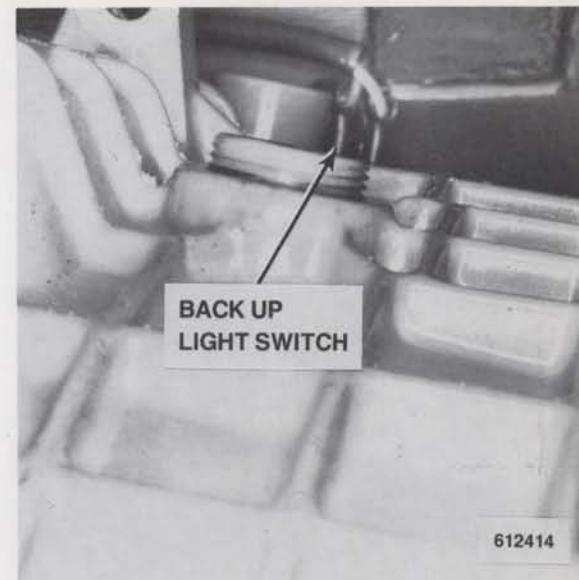


Figure 5 - RH Side of Transmission

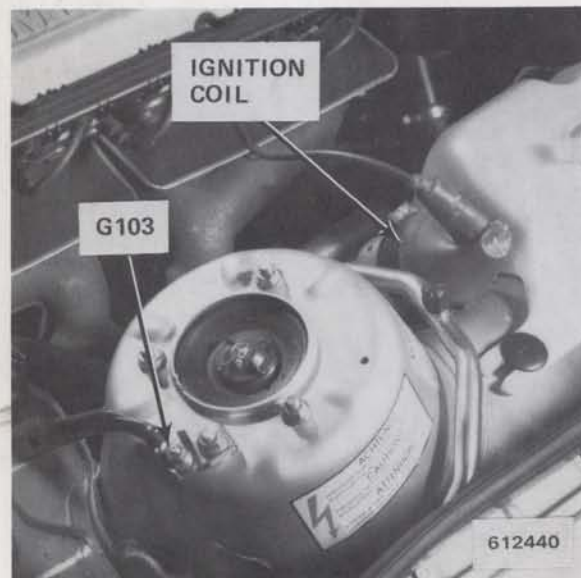


Figure 2 - RH Side of Engine Compartment

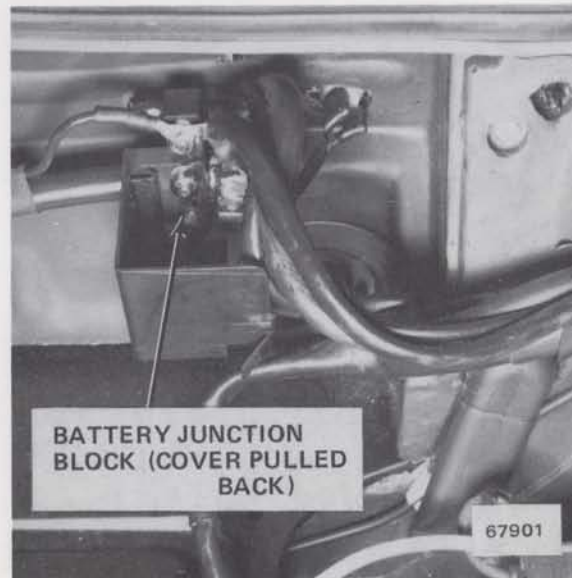


Figure 4 - RH Rear of Engine Compartment

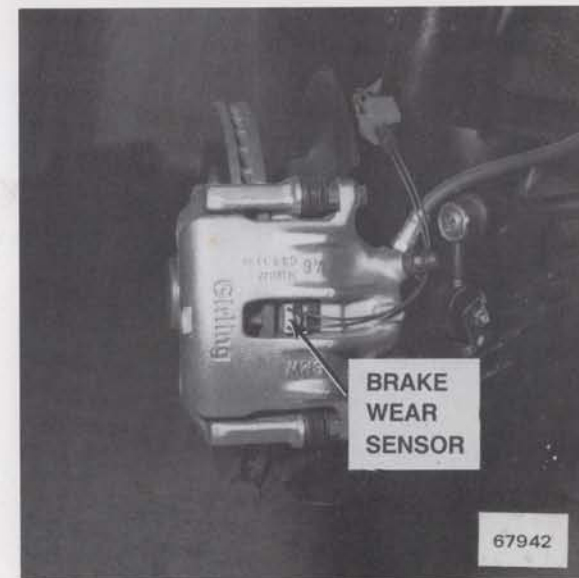


Figure 6 - LH Front Brake Assembly (Wheel Removed) (RH Rear Similar)

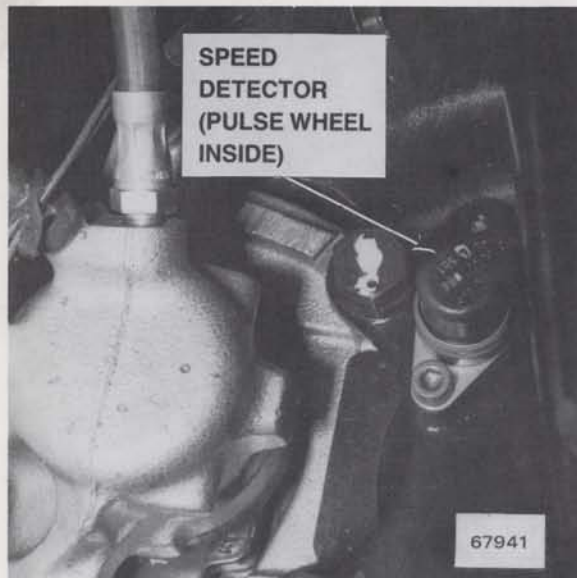


Figure 1 - LH Front Spindle Assembly
(All Others Similar)

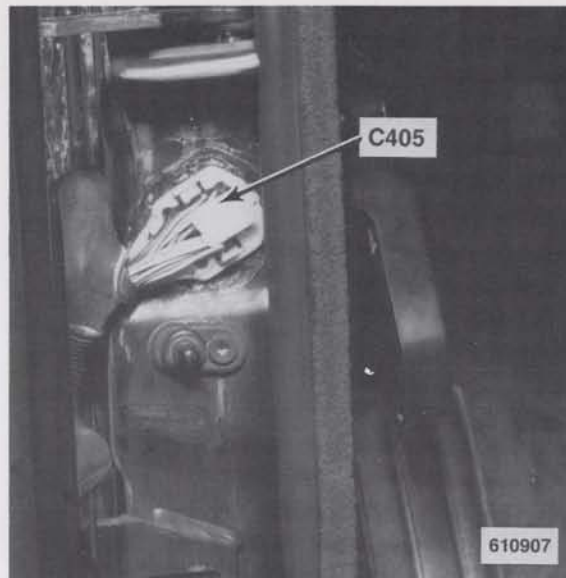


Figure 3 - Above LH Front Door
Jamb Switch

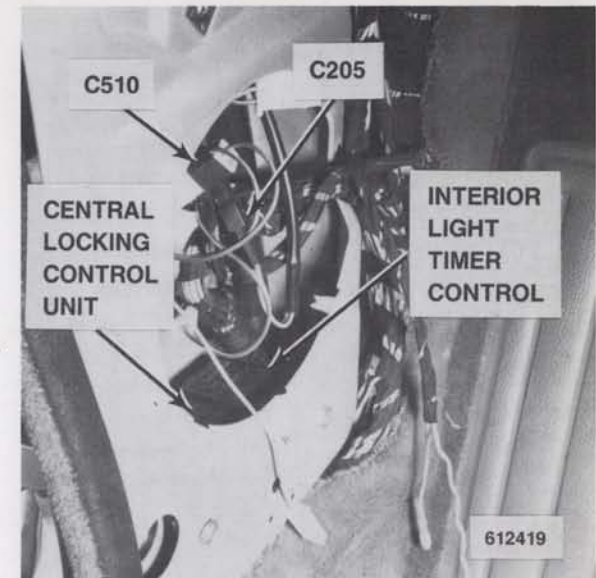


Figure 5 - LH Kick Panel
(Speaker Removed)

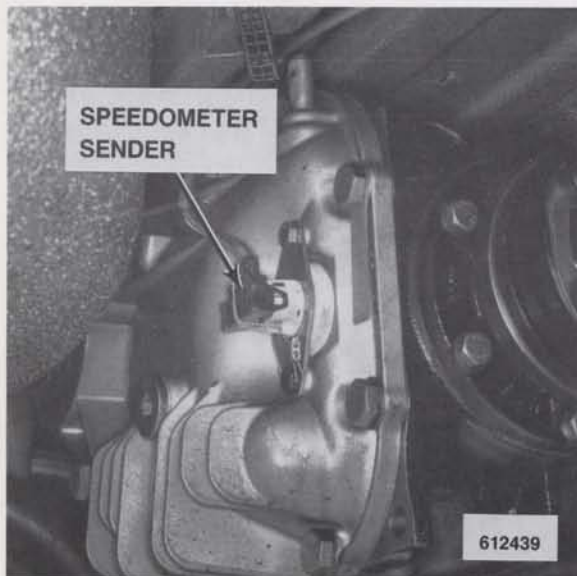


Figure 2 - Rear of Rear Differential

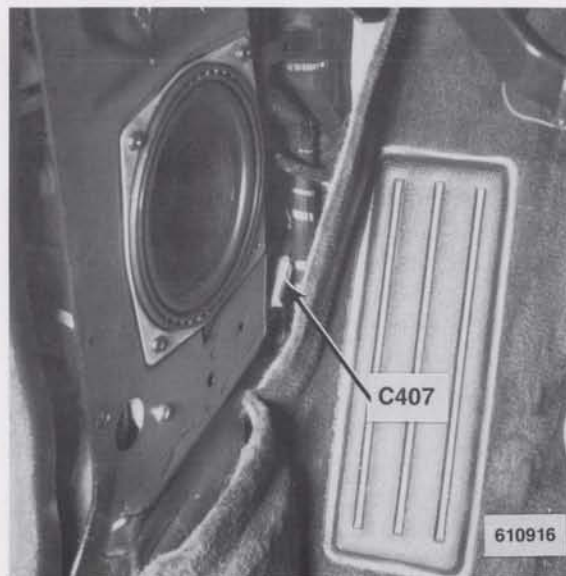


Figure 4 - Below LH Front Speaker

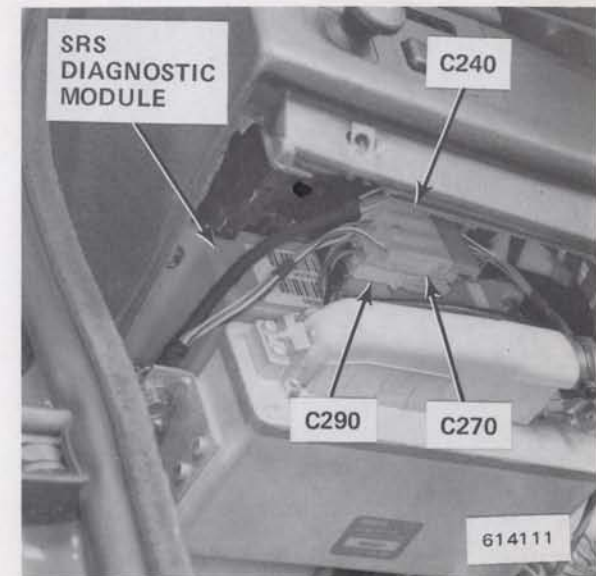


Figure 6 - Below LH Side of Dash,
Left of Steering Column

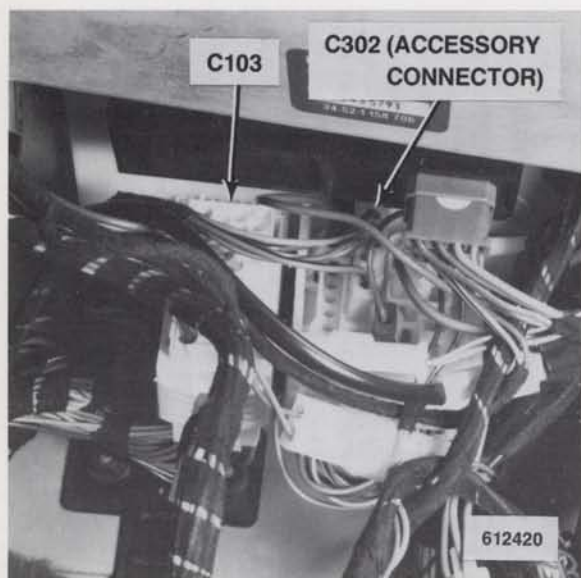


Figure 1 - Behind LH Side of Dash,
Left of Steering Column

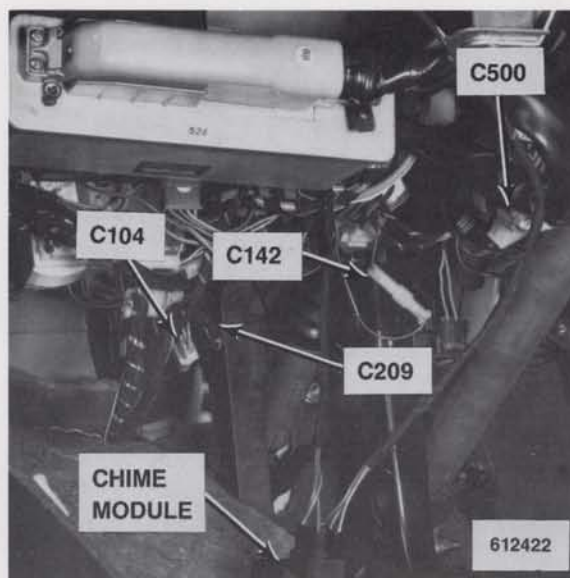


Figure 3 - Below LH Side of Dash,
Left of Steering Column

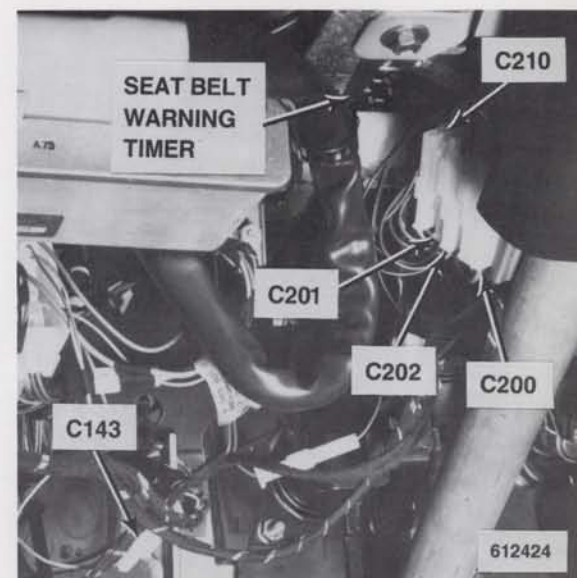


Figure 5 - Below LH Side of Dash,
Left of Steering Column

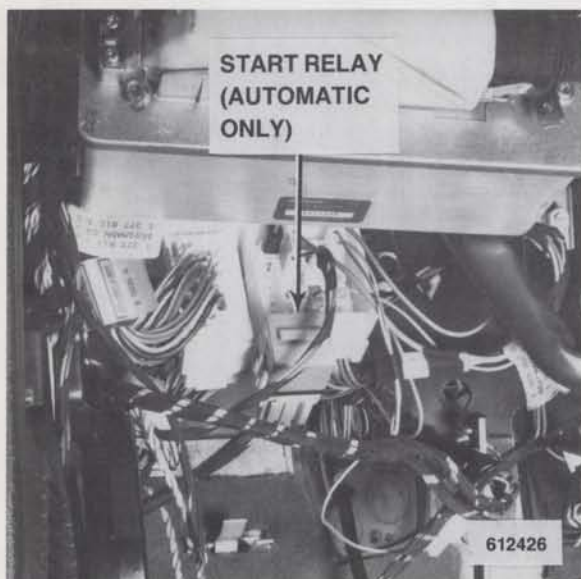


Figure 2 - Below LH Side of Dash,
Left of Steering Column

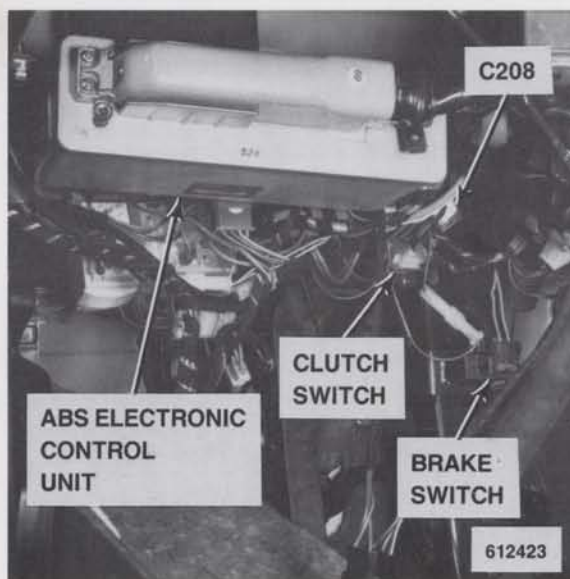


Figure 4 - Below LH Side of Dash,
Left of Steering Column



Figure 6 - Below LH Side of Dash,
Left of Steering Column

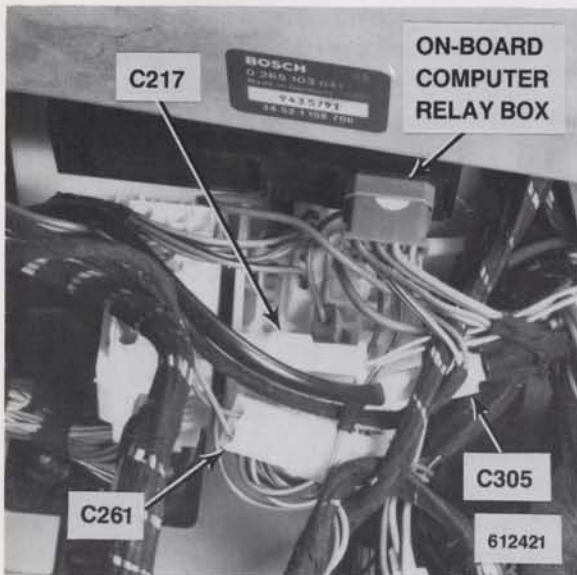


Figure 1 - Below LH Side of Dash,
Left of Steering Column



Figure 3 - Top of Steering Column
(Air Bag Gas Generator Removed)



Figure 5 - Inside Steering Wheel
(Removed From Car)



Figure 2 - Underside of Steering Column

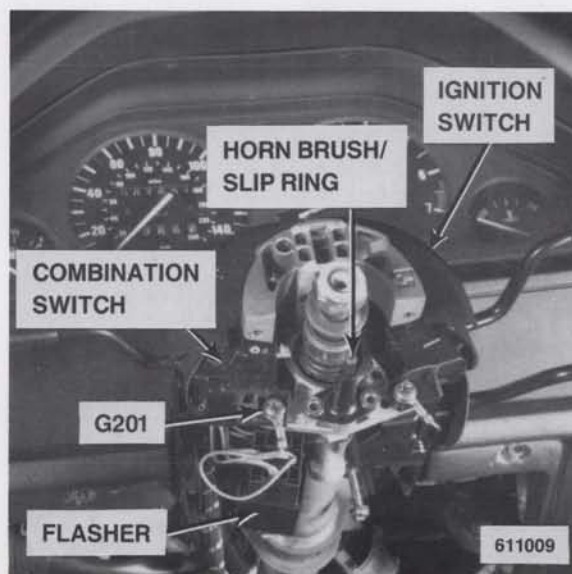


Figure 4 - Top of Steering Column
(Steering Wheel Removed)

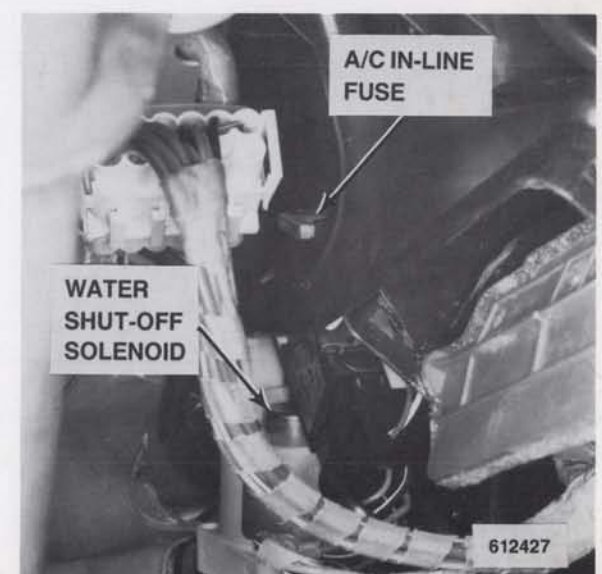


Figure 6 - LH Side of Evaporator
Housing

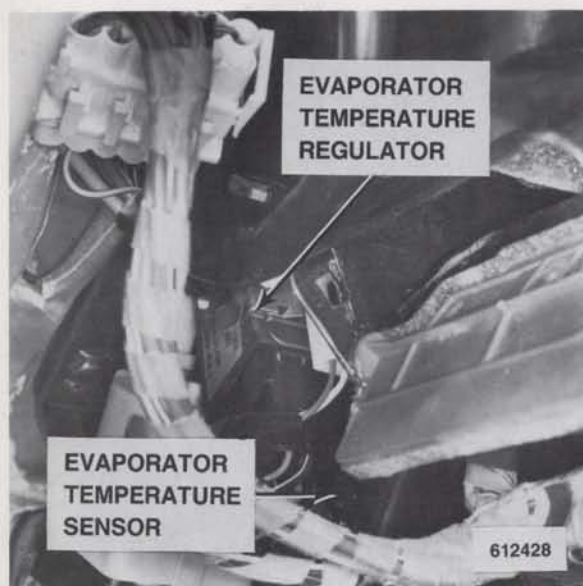


Figure 1 - LH Side of Evaporator Housing

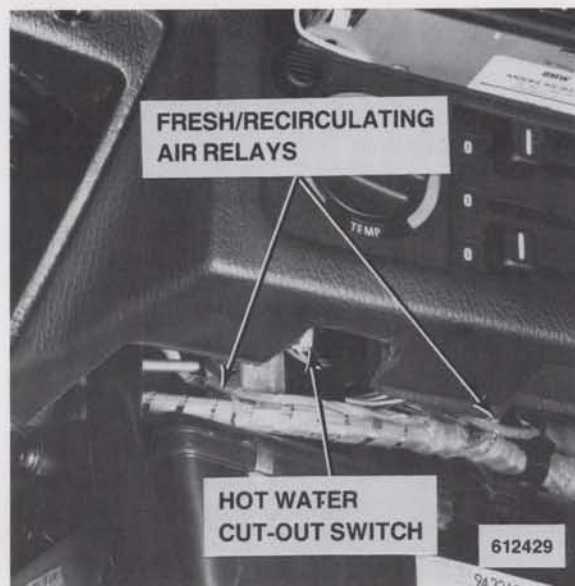


Figure 3 - Behind Center of Dash

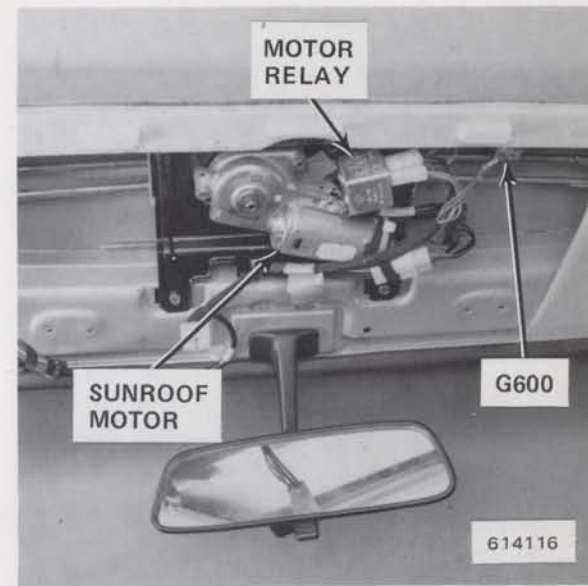


Figure 5 - Center of Windshield Header



Figure 2 - LH Side of Evaporator Housing



Figure 4 - Center of Windshield Header

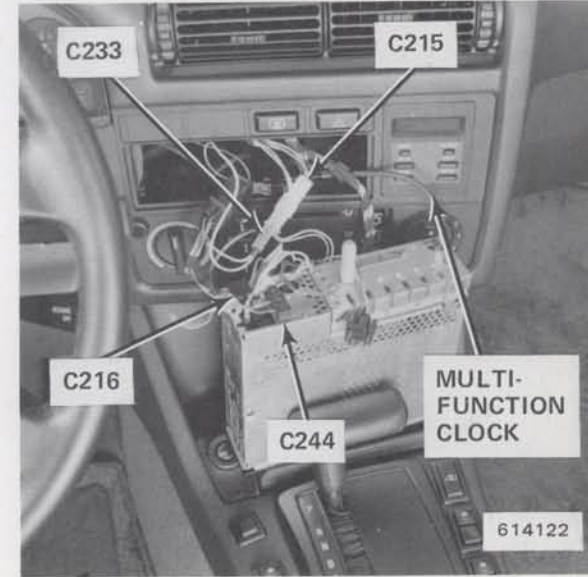


Figure 6 - Behind Center of Dash (With Sound System)



Figure 1 - Behind Center of Dash
(With Sound System)

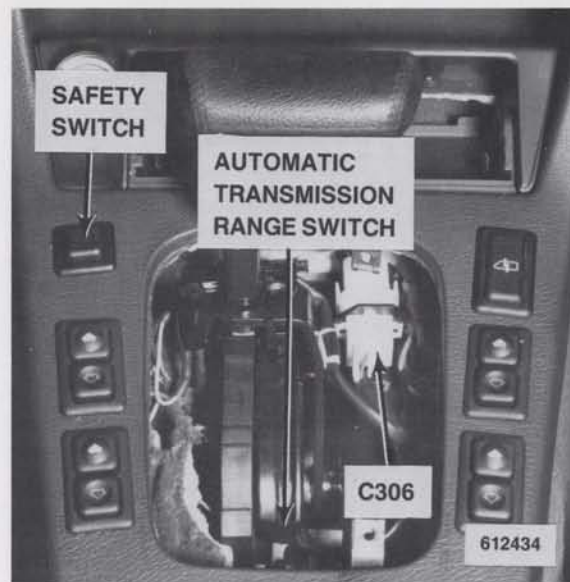


Figure 3 - Below Center Console



Figure 5 - Below Rear of Center Console



Figure 2 - Behind Center of Dash
(Without Sound System)

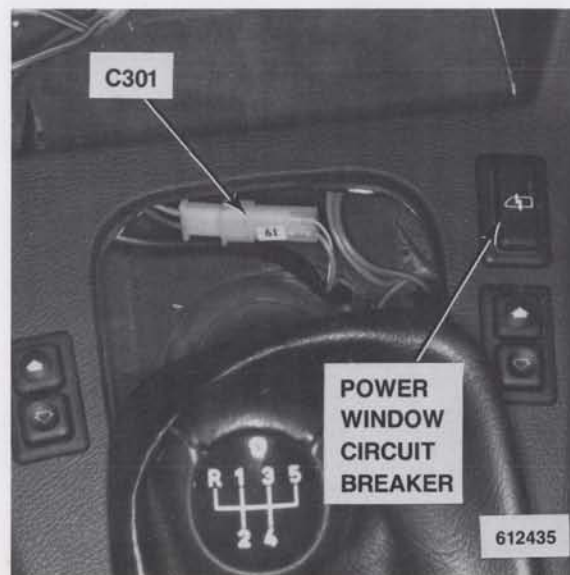


Figure 4 - Below Center Console

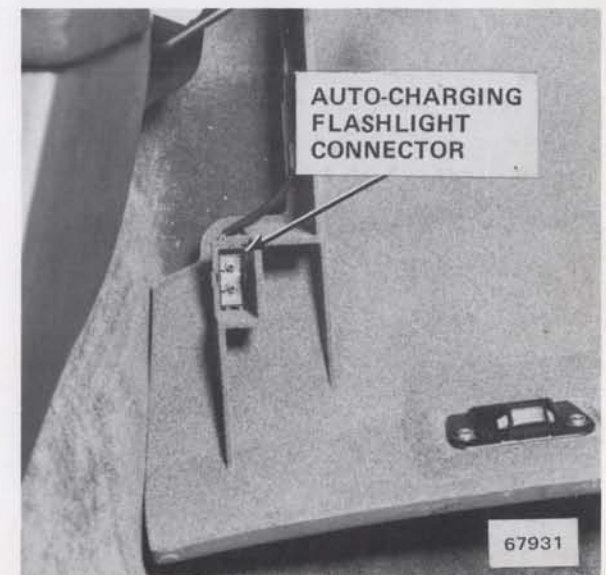


Figure 6 - LH Side of Glove Box

7000-10 COMPONENT LOCATION VIEWS

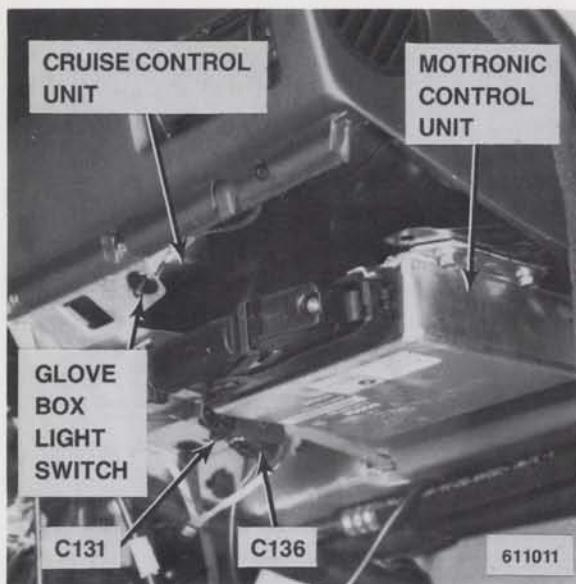


Figure 1 - Behind RH Side of Dash, Above Glove Box

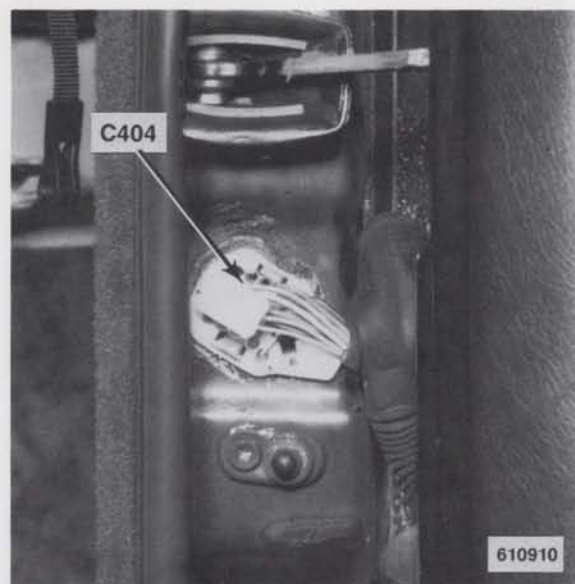


Figure 3 - Above RH Front Door Jamb Switch



Figure 5 - Inside of Rear of LH Front Door (RH Similar)

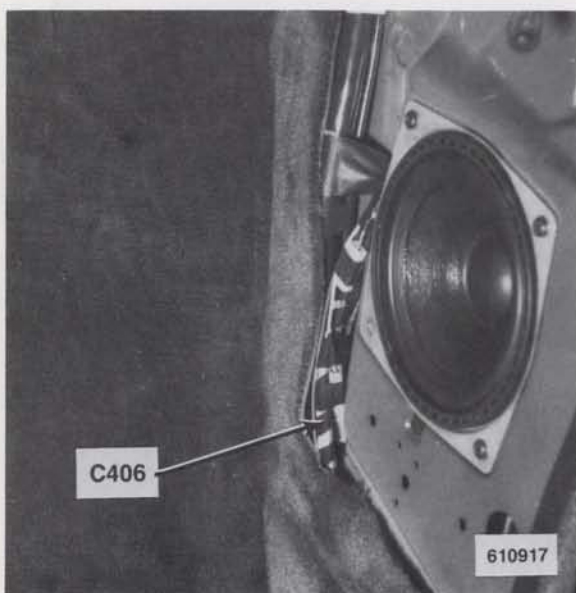


Figure 2 - Below RH Front Speaker



Figure 4 - Inside LH Front Door (RH Similar)



Figure 6 - Inside Rear of LH Front Door (RH Similar)



Figure 1 - Inside LH "B" Pillar
(RH Similar)

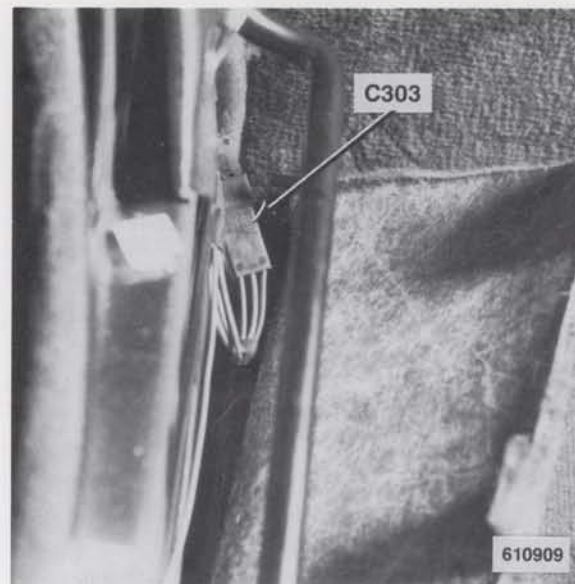


Figure 3 - At Base of LH "B" Pillar



Figure 5 - Inside Front of LH Rear
Door (RH Similar)

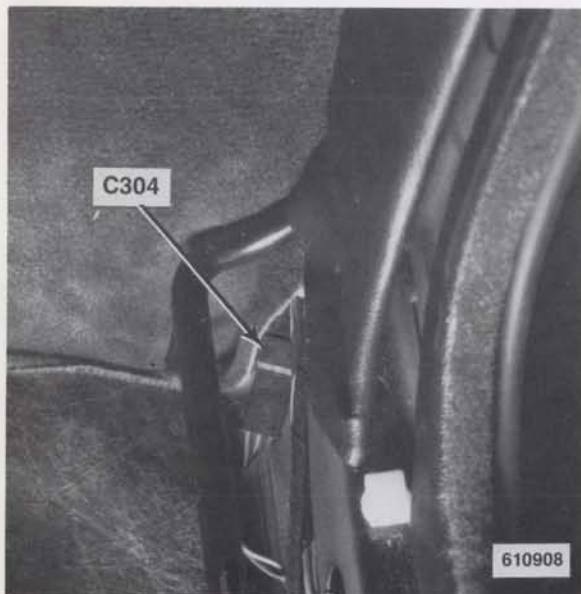


Figure 2 - At Base of LH "B" Pillar

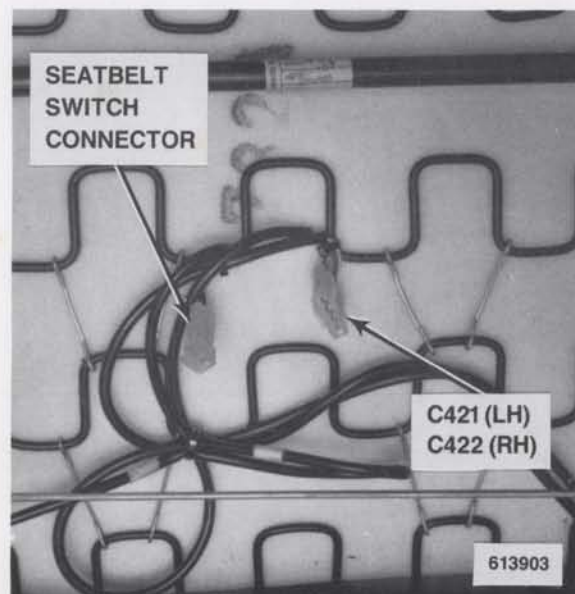


Figure 4 - Below LH Front Seat



Figure 6 - Inside Rear of LH Rear
Door (RH Similar)

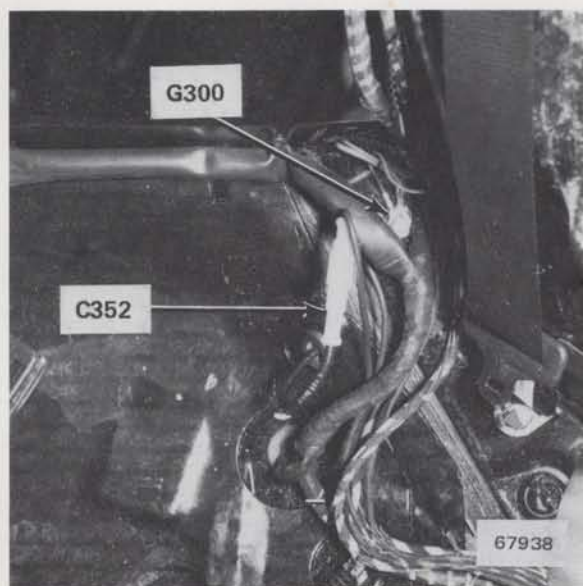


Figure 1 - Below LH Side of Rear Seat

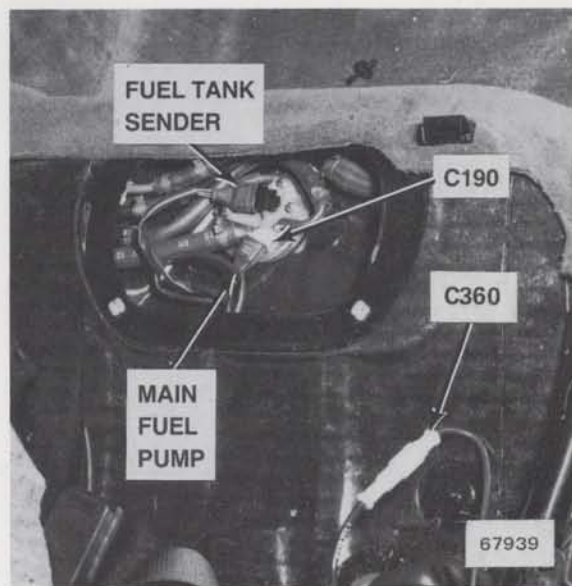


Figure 3 - Below RH Side of Rear Seat (Access Panel Removed)



Figure 5 - LH Side of Trunk

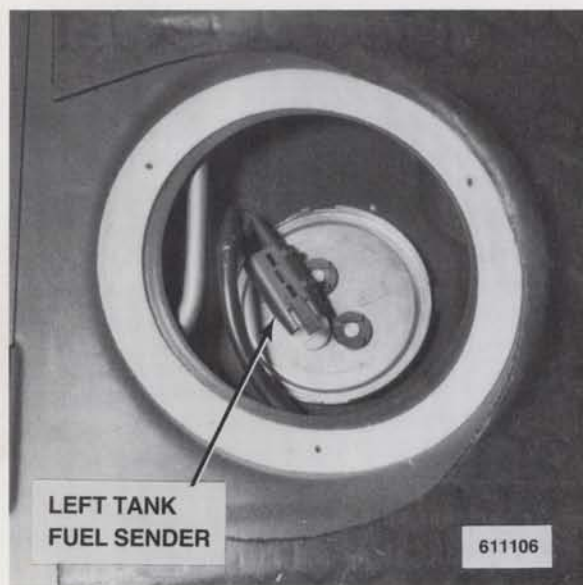


Figure 2 - Below LH Side of Rear Seat (Access Panel Removed)

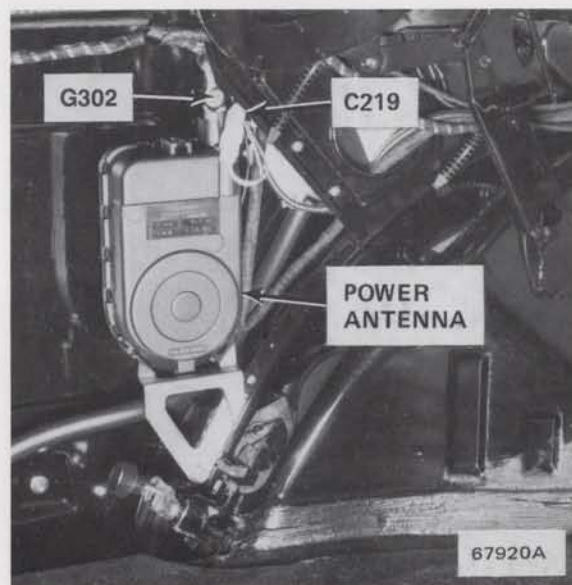


Figure 4 - LH Side of Trunk

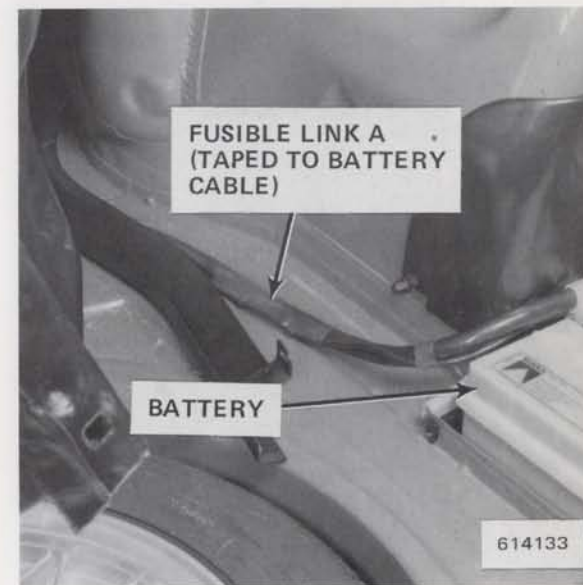


Figure 6 - RH Side of Trunk

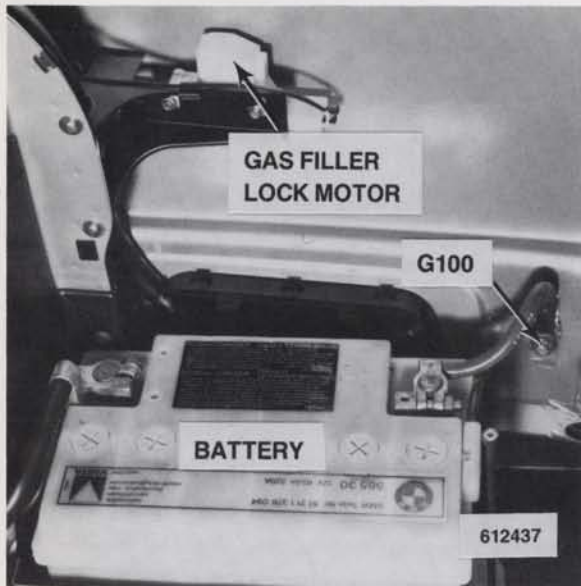


Figure 1 - RH Rear of Trunk



Figure 3 - LH Rear of Trunk Lid



Figure 2 - Center Rear of Trunk

INDEX

This index lists all the splices in the vehicle, the harness location of each splice, and the page on which each splice appears. The drawings after the index show how the harnesses are routed through the vehicle and the location of the splices on the harness.

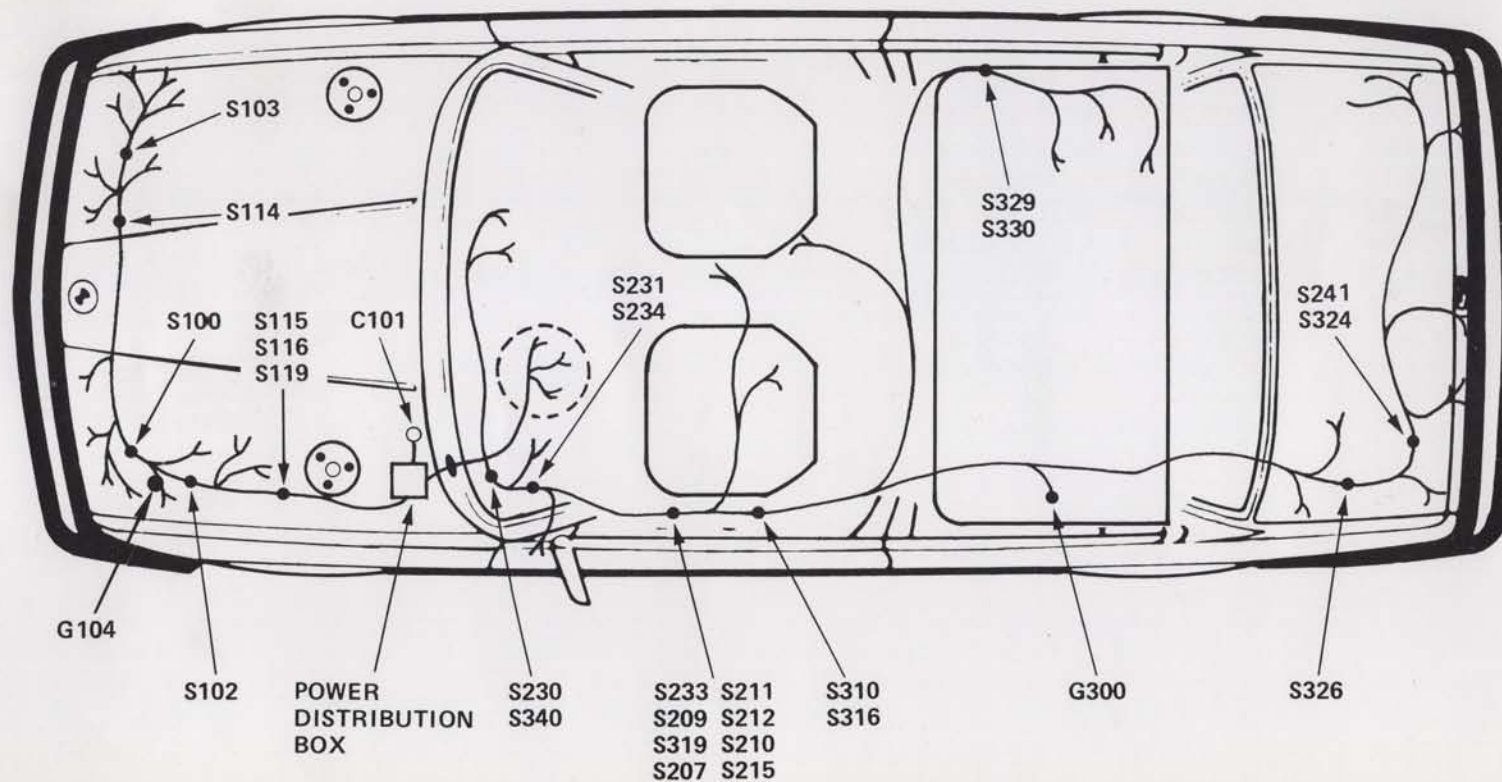
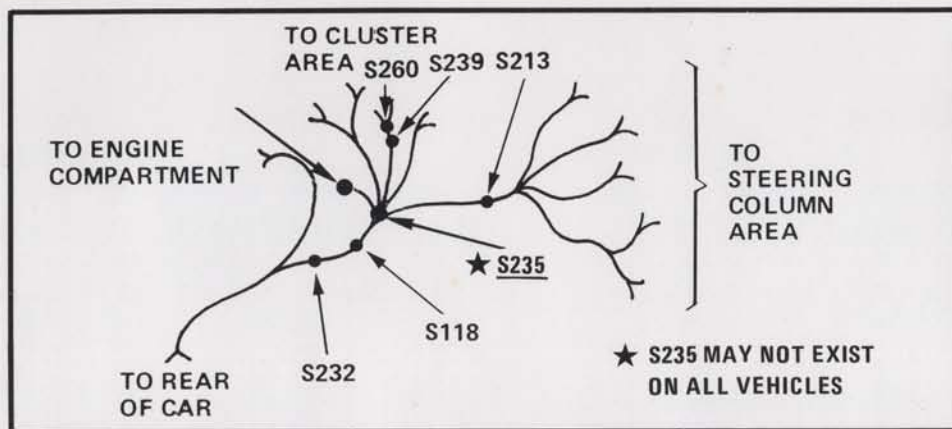
SPLICE	HARNESS	PAGE NUMBER	SPLICE	HARNESS	PAGE NUMBER
S100	MAIN	8000-2	S224	MULTI- FUNCTION	NOT SHOWN
S101	ENGINE	8000-3		CLOCK	
S102	MAIN	8000-2	S225	MULTI- FUNCTION	NOT SHOWN
S103	MAIN	8000-2		CLOCK	
S104	ENGINE	8000-3	S226	A/C	NOT SHOWN
S105	ENGINE	8000-3	S228	CRUISE CONTROL	NOT SHOWN
S106	ENGINE	8000-3		A/C	NOT SHOWN
S107	ENGINE	8000-3	S229	A/C	NOT SHOWN
S108	ENGINE	8000-3	S230	MAIN	8000-2
S109	ENGINE	8000-3	S231	MAIN	8000-2
S110	A/C	NOT SHOWN	S232	MAIN	8000-2
S111	ENGINE	8000-3	S233	MAIN	8000-2
S112	ENGINE	8000-3	S234	MAIN	8000-2
S113	ENGINE	8000-3	S235	MAIN	8000-2
S114	MAIN	8000-2	S238	MAIN	NOT SHOWN
S115	MAIN	8000-2	S239	MAIN	8000-2
S116	MAIN	8000-2	S240	A/C	NOT SHOWN
S118	MAIN	8000-2	S241	MAIN	8000-2
S119	MAIN	8000-2	S250	A/C	NOT SHOWN
S201	ON-BOARD COMPUTER	8000-6	S251	A/C	NOT SHOWN
S202	ON-BOARD COMPUTER	8000-6	S252	A/C	NOT SHOWN
S207	MAIN	8000-2	S260	MAIN	8000-2
S209	MAIN	8000-2	S300	DOOR	8000-4
S210	MAIN	8000-2	S301	DOOR	8000-4
S211	MAIN	8000-2	S302	DOOR	8000-4
S212	MAIN	8000-2	S303	DOOR	8000-4
S213	MAIN	8000-2	S304	DOOR	8000-4
S215	MAIN	8000-2	S305	DOOR	8000-4
S219	INSTRUMENT PANEL	8000-5	S306	INSTRUMENT PANEL	8000-5
S221	INSTRUMENT PANEL	8000-5	S307	INSTRUMENT PANEL	8000-5
S223	CRUISE CONTROL	NOT SHOWN	S309	DOOR	8000-4
			S310	MAIN	8000-2

SPLICE	HARNESS	PAGE NUMBER
S313	RADIO	NOT SHOWN
S316	MAIN	8000-2
S319	MAIN	8000-2
S322	DOOR	8000-4
S323	DOOR	8000-4
S324	MAIN	8000-2
S326	MAIN	8000-2
S329	MAIN	8000-2
S330	MAIN	8000-2
S332	DOOR	8000-4
S333	DOOR	8000-4
S340	MAIN	8000-2
S341	MAIN	8000-2
S342	DOOR	8000-4
S345	RADIO	NOT SHOWN
S400	RADIO	NOT SHOWN
S402	DOOR	8000-4
S403	RADIO	NOT SHOWN
S404	RADIO	NOT SHOWN
S411	DOOR	8000-4
S420	RADIO	NOT SHOWN
S501	DOOR	8000-4
S502	DOOR	8000-4
S503	DOOR	8000-4
S504	DOOR	8000-4

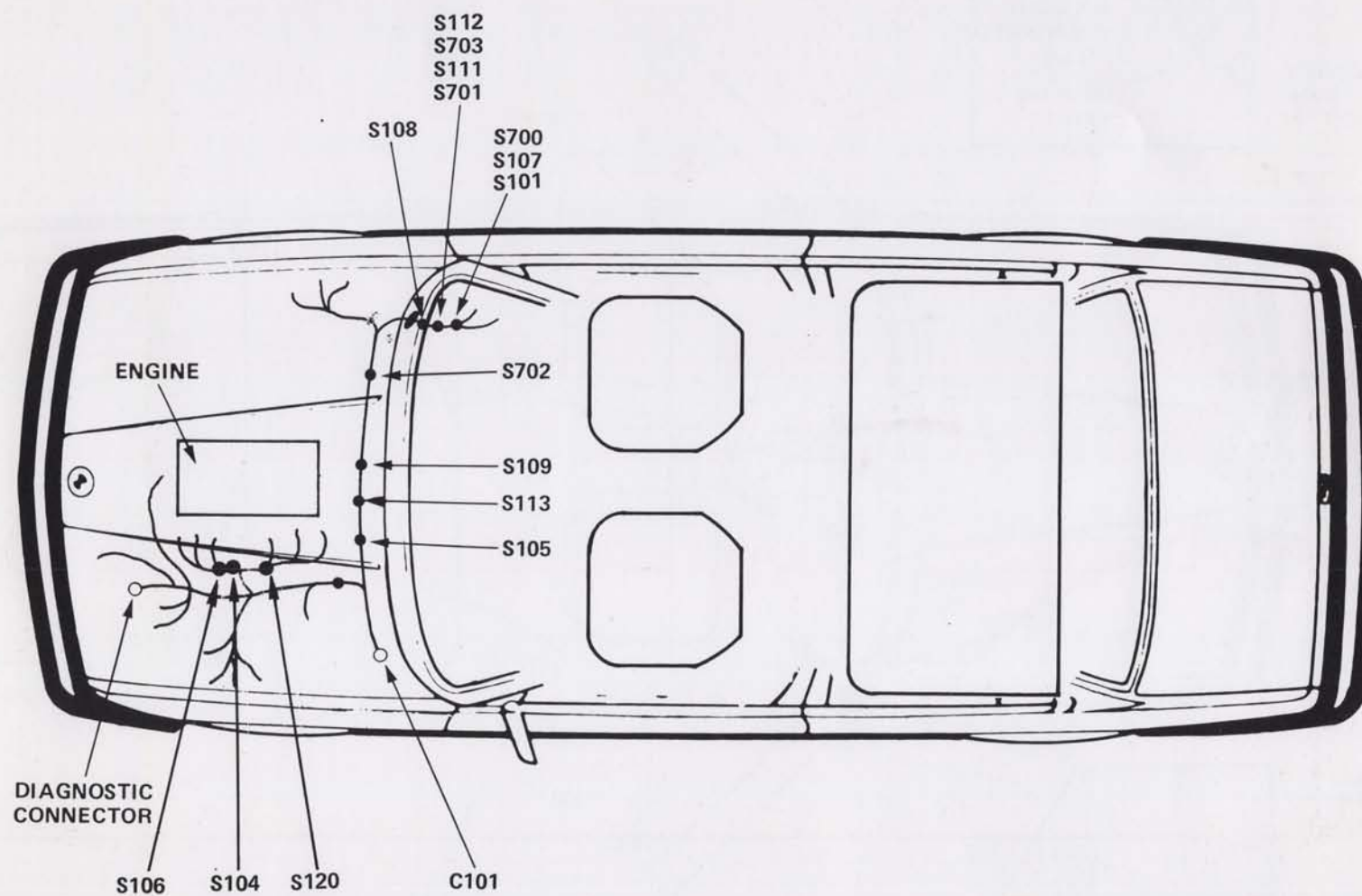
SPLICE	HARNESS	PAGE NUMBER
S540	HEATED SEATS	NOT SHOWN
S541	HEATED SEATS	NOT SHOWN
S542	HEATED SEATS	NOT SHOWN
S543	HEATED SEATS	NOT SHOWN
S700	ENGINE	8000-3
S701	ENGINE	8000-3
S702	ENGINE	8000-3
S703	ENGINE	8000-3

8000-2 SPLICE LOCATION VIEWS

MAIN HARNESS SPLICE LOCATIONS

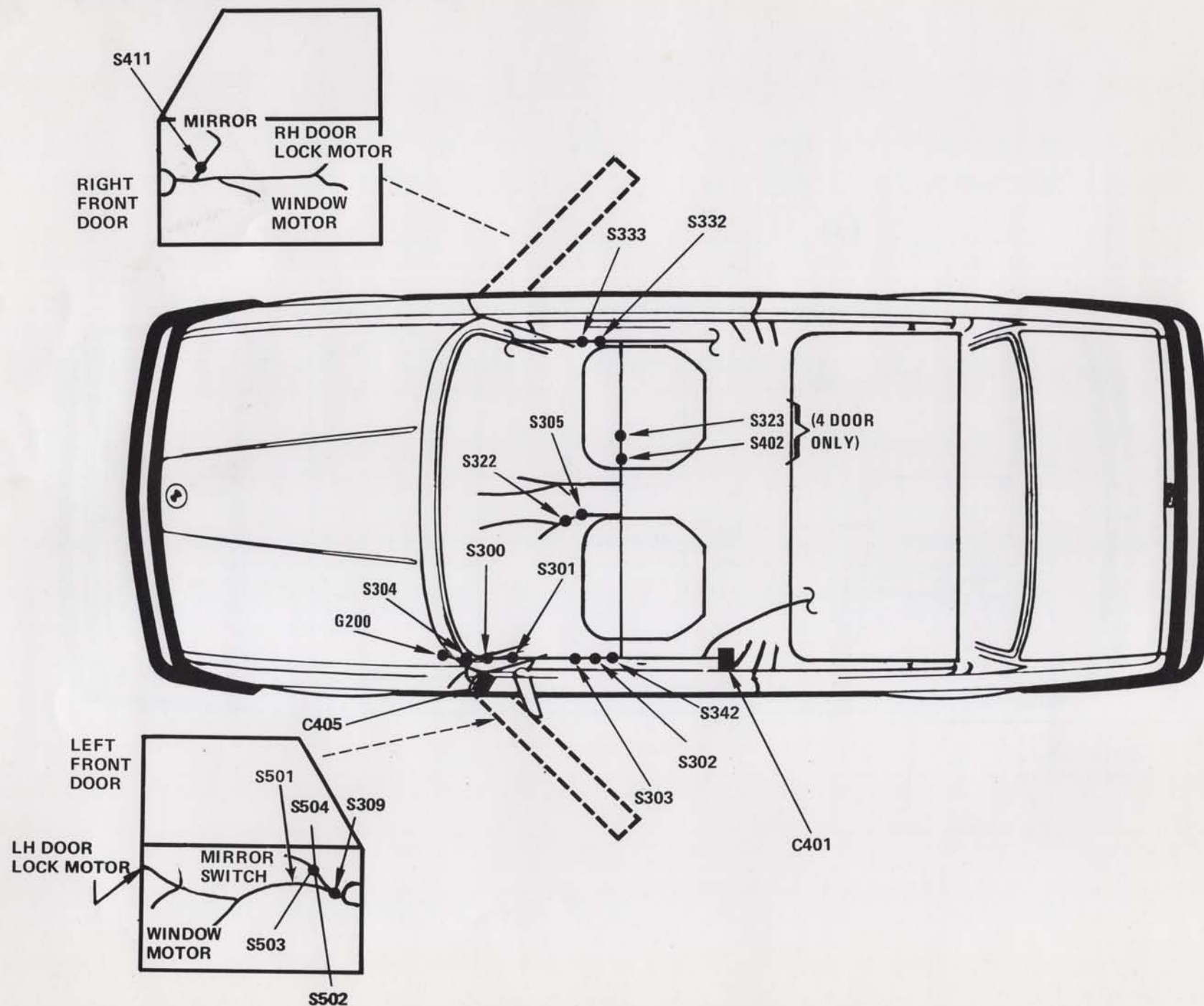


ENGINE HARNESS SPLICE LOCATIONS

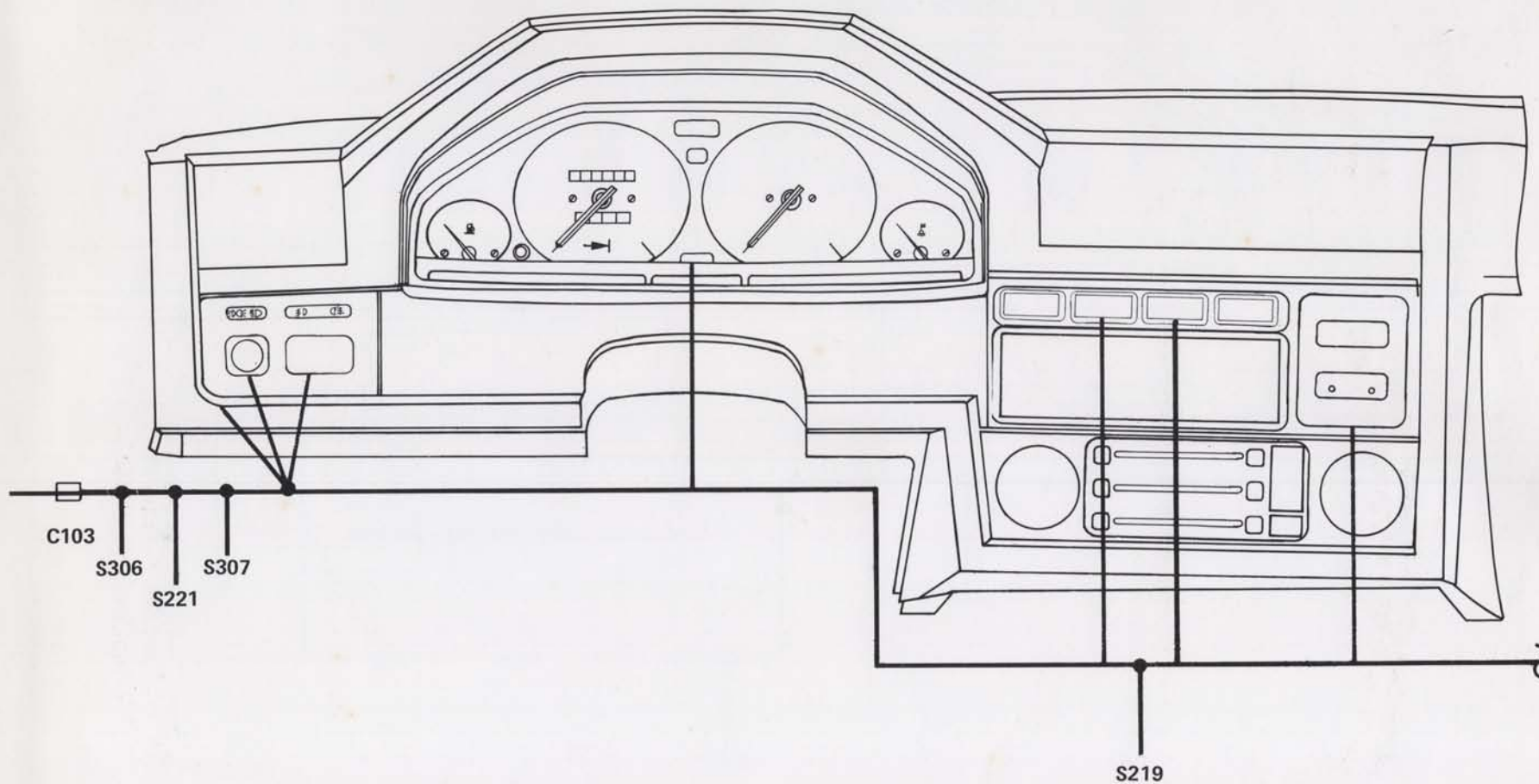


8000-4 SPlice LOCATION VIEWS

DOOR HARNESS SPlice LOCATIONS

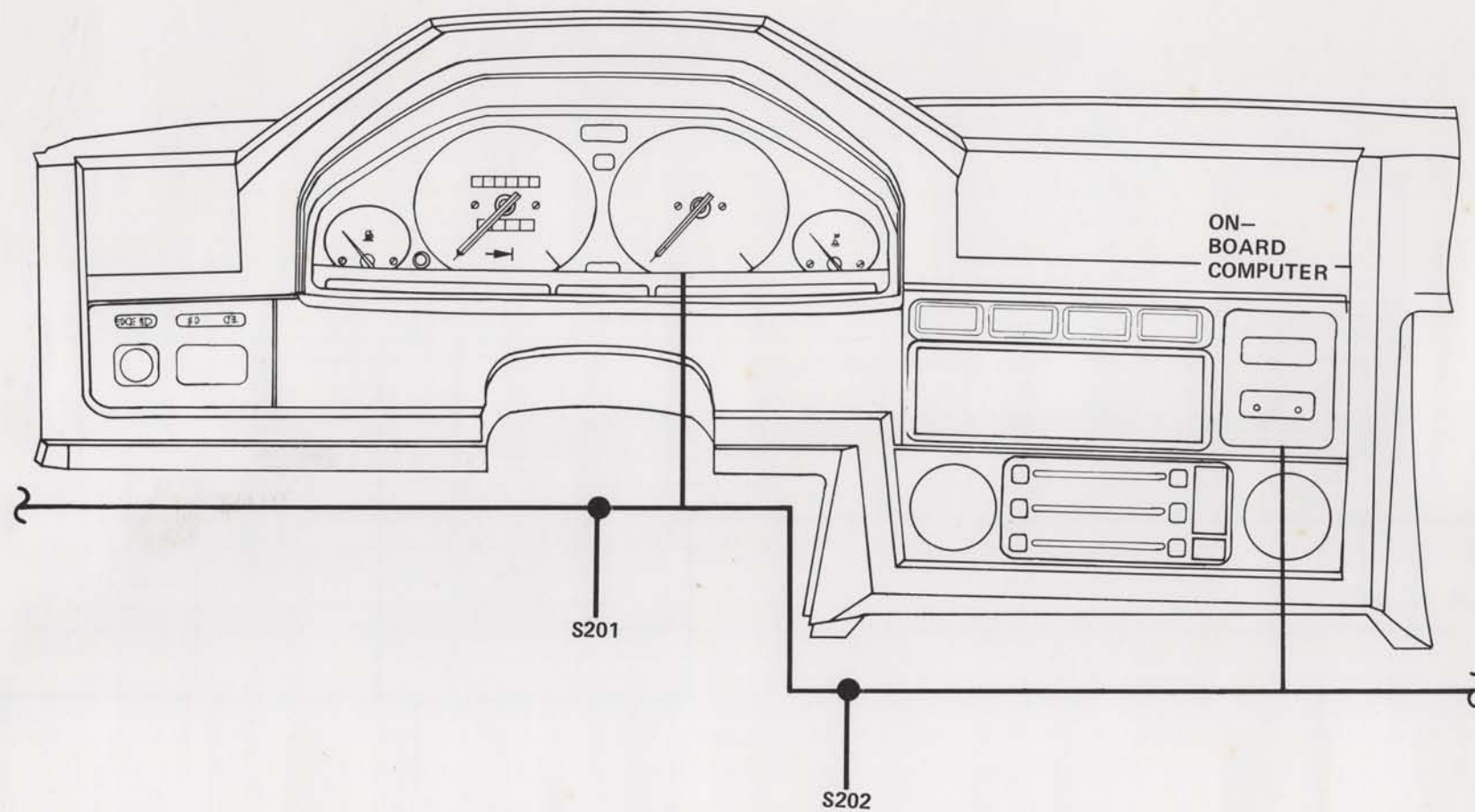


INSTRUMENT PANEL HARNESS SPLICE LOCATIONS



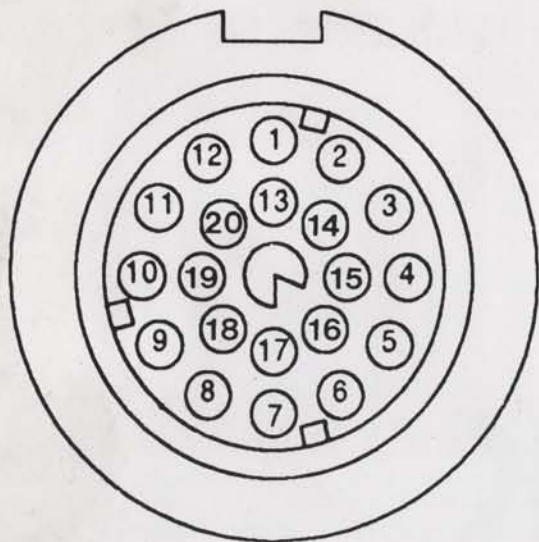
8000-6 SPLICE LOCATION VIEWS

ON-BOARD COMPUTER HARNESS SPLICE LOCATIONS



BLANK

DIAGNOSTIC CONNECTOR

DIAGNOSTIC CONNECTOR FACE

Pin	Wire Size	Wire Color	Circuit and Component Connected
1	1	BK	Ignition Coil, Motronic Control Unit
6	.5	WT/BK	SRS Connector
7	.5	WT/BU	Service Interval Indicator, Service Interval Processor (Reset)
11	2.5	BK/YL	Starter, Start Signal (50)
12	.75	BU	Charge, Alternator (D+)
14	2.5	RD	Battery (+)
15	.5	BK/YL	Motronic Control Unit (RXD)
16	1.5	GN/WT	Oxygen Sensor/Power (318is)
18	.5	GN/BU	Motronic Control Unit (Programming Voltage)
19	1.5	BR	Ground Distribution (G103)
20	.5	WT/VI	Motronic Control Unit (TXD)

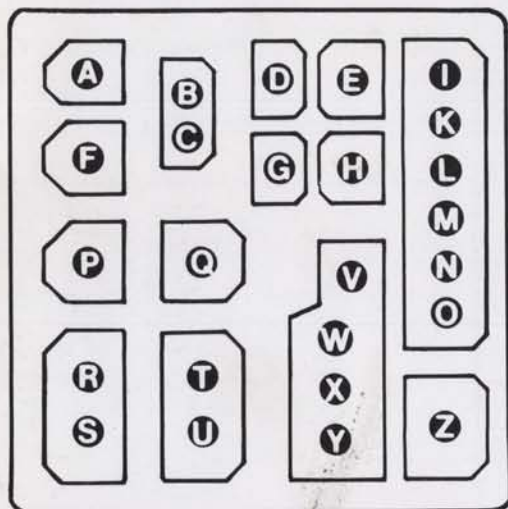


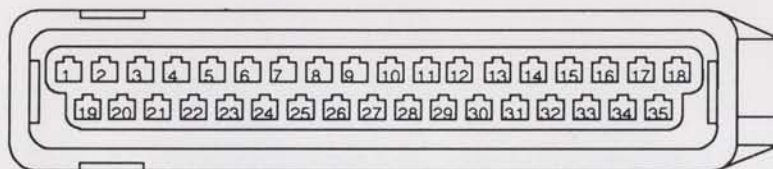
Figure 1-C302 (Accessory Connector)
Front View—Under LH Side
of Dash Ahead of Pedal Assembly

CIRCUITS USING C302 (ACCESSORY CONNECTOR)

TERMINAL	CIRCUIT	TERMINAL	CIRCUIT
A	Not Used	N	Not Used
B	Not Used	O	Not Used
C	Anti-Lock Braking	P	Not Used
D	Not Used	Q	Power Windows
E	Not Used	R	Anti-Lock Braking
F	Not Used	S	Cruise Control
G	Anti-Lock Braking	T	Not Used
H	Multifunction Clock	U	Not Used
I	Not Used	V	Radio
J	Not Used	W	Radio
K	Not Used	X	Radio
L	Not Used	Y	Radio
M	Not Used	Z	Power Antenna

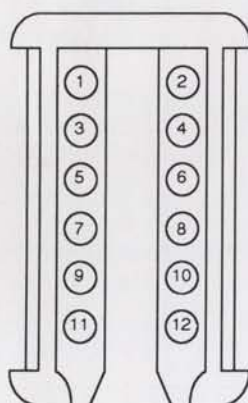
8500-2 CONNECTOR VIEWS

B350002.04



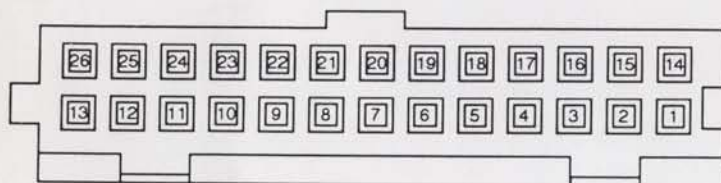
Mating Face
ABS CONTROL UNIT

B120014



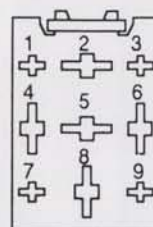
Wiring Face
ABS HYDRAULIC UNIT

B260002.01



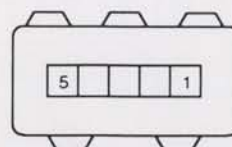
Mating Face
ACTIVE CHECK CONTROL

B090001.14



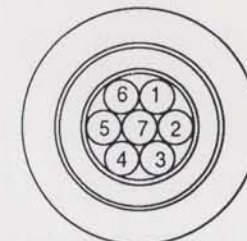
Mating Face
ABS NEUTRAL
INPUT RELAY

B050010.00

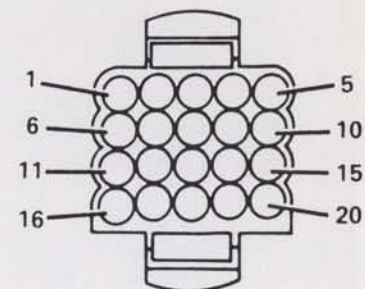


Mating Face
AIR FLOW METER
325i/is, M3, 325ix, 325ic

B070008.00

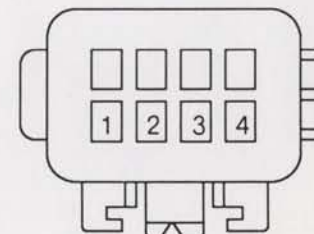


Mating Face
AIR FLOW METER
318is



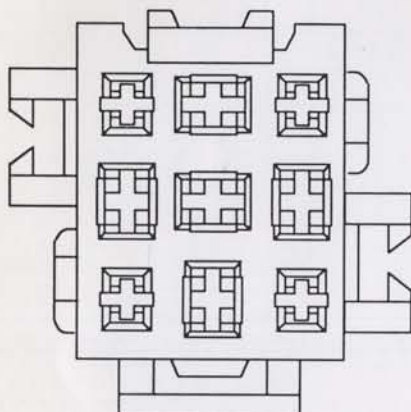
Wiring Face
AMPLIFIER
(SOUND SYSTEM)

B080012



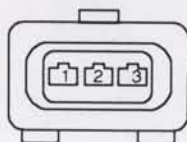
Wiring Face
AUXILIARY FUSE

B090005

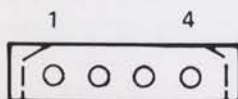


Mating Face
A/C COMPRESSOR CONTROL UNIT
318is

B030015.03

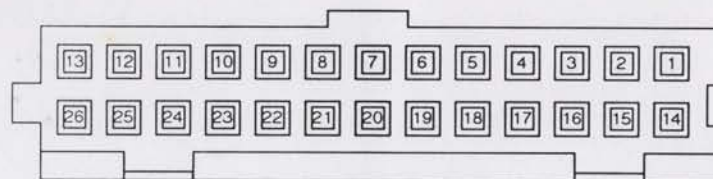


Wiring Face
BAROMETRIC PRESSURE
SENSOR



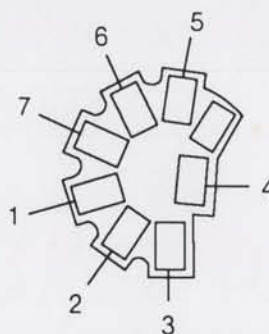
Wiring Face
BLOWER RESISTORS

B260002.03

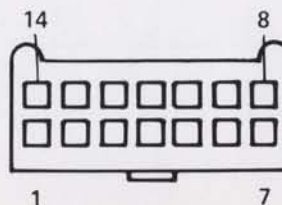


Wiring Face
CRUISE CONTROL
UNIT

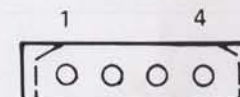
B080014.00



Wiring Face
BLOWER SPEED CONTROL

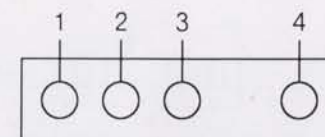


Wiring Face
CENTRAL LOCKING CONTROL UNIT



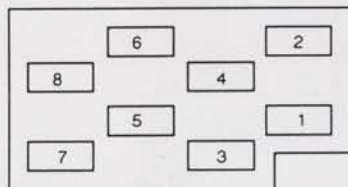
Wiring Face
CHIME MODULE (C1)

B040013



Wiring Face
CHIME MODULE (C2)

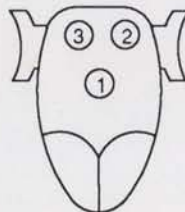
B080013.00



Wiring Face

CONTROL SWITCHES

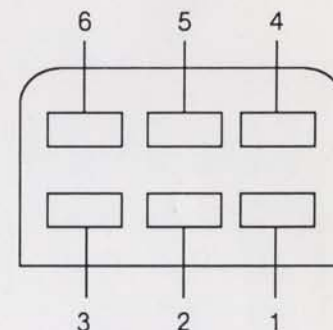
B030019.00



Wiring Face

DUAL TEMPERATURE SWITCH

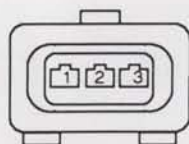
B060024



Wiring Face

EVAPORATOR TEMPERATURE
REGULATOR

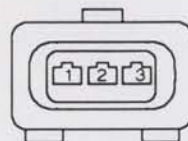
B030015.05



Mating Face

CYLINDER IDENTIFICATION
SENSOR

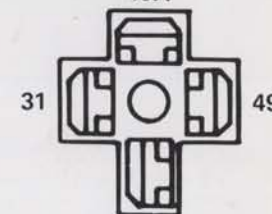
B030015.04



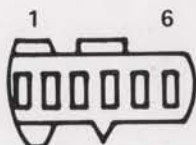
Wiring Face

ENGINE SPEED SENSOR

49A



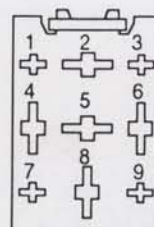
Wiring Face
FLASHER



Wiring Face

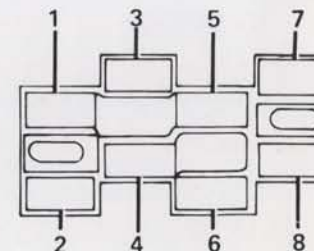
DOOR LOCK MOTOR

B090001.04



Mating Face

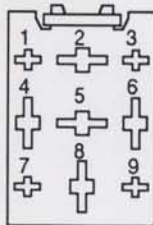
EVAPORATIVE
PURGE VALVE RELAY



Wiring Face

FOG LIGHT SWITCH

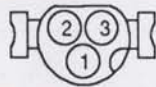
B090001.17



Mating Face

FRESH/RECIRCULATING AIR RELAY

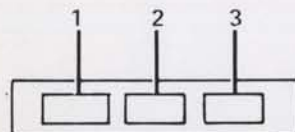
B030017.00



Wiring Face

FRONT TURN/PARK LIGHT

325i/325is, 325ix

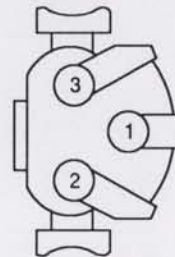


Wiring Face

FRONT TURN/PARK LIGHT

325ic, M3

B030025.00

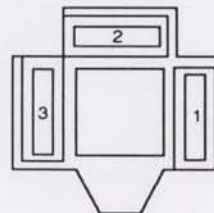


Mating Face

FRONT TURN/PARK LIGHT

318is

B030015.09

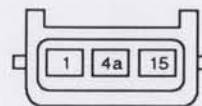


Mating Face

HEADLIGHTS

Low and High Beams

B030015.08

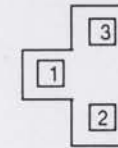


Mating Face

IGNITION COILS

318is

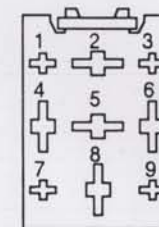
B030020.00



Wiring Face

INSTRUMENT CLUSTER (C6)

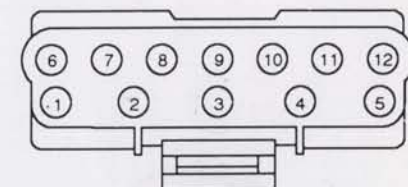
B090001.16



Mating Face

INTERIOR LIGHT TIMER CONTROL

B120006.00

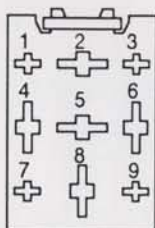


Wiring face

LIGHT SWITCH

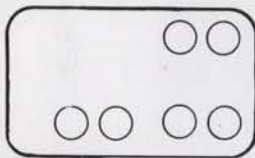
8500-6 CONNECTOR VIEWS

B090001.06



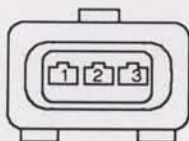
Mating Face
MAIN RELAY

2 6



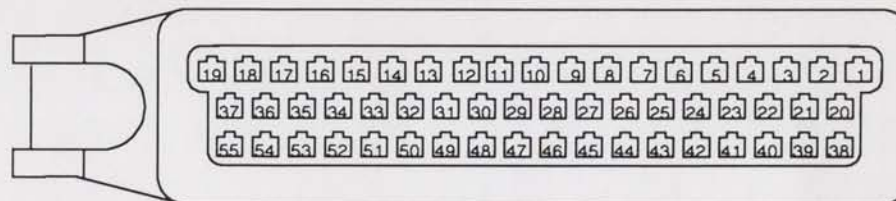
Mating Face
MIRROR CONTROL SWITCH

B030015.06



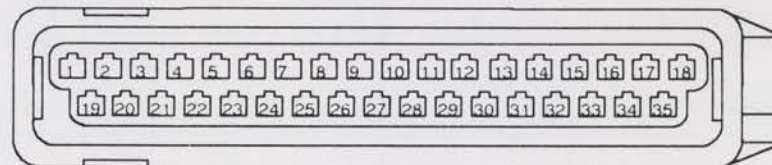
Wiring Face
OIL LEVEL SENSOR

B550001.02



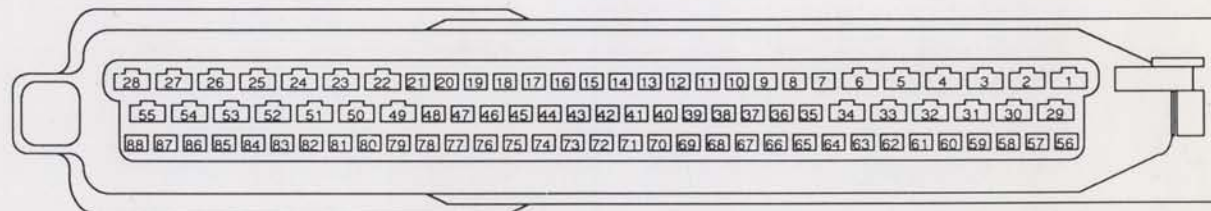
Mating Face
MOTRONIC CONTROL UNIT
All except M3 and 318is

B350002



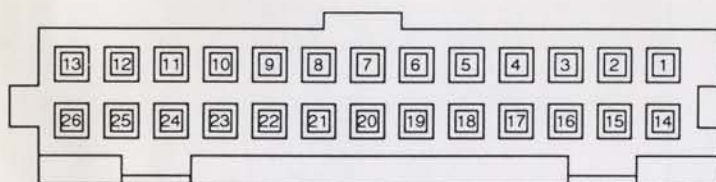
Mating Face
MOTRONIC CONTROL UNIT

B880002.00



Mating Face
MOTRONIC CONTROL UNIT
318is

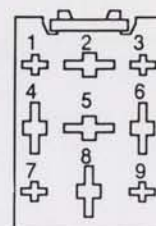
B260002.00



Wiring Face

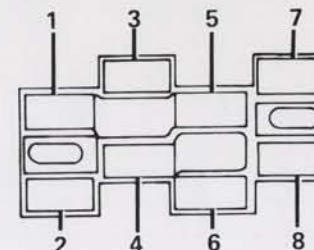
ON - BOARD COMPUTER MODULE

B090001.05



Mating Face

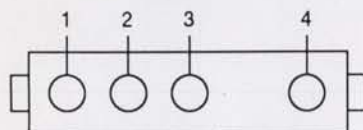
OXYGEN SENSOR HEATER RELAY



Wiring Face

REAR DEFOGGER SWITCH

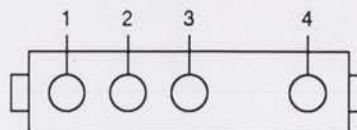
B040012.02



Wiring Face

ON - BOARD COMPUTER
RELAY BOX (C2)

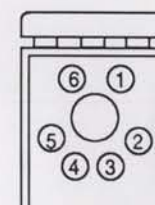
B040012.01



Wiring Face

POWER MIRRORS

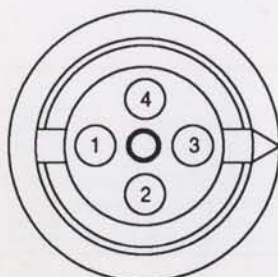
B060027.00



Wiring Face

REAR LIGHT ASSEMBLY

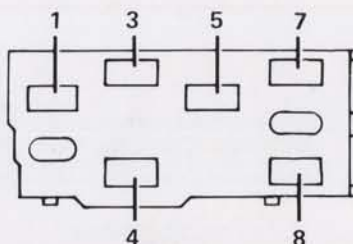
B040018



Mating Face

OXYGEN SENSOR HEATER

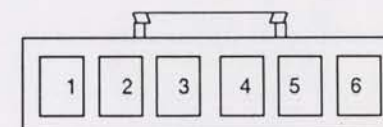
318is



Wiring Face

POWER WINDOW SWITCHES

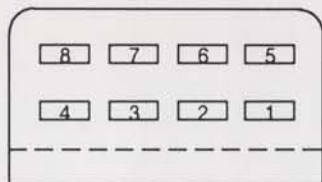
B060033.00



Wiring Face

REAR LIGHT ASSEMBLY

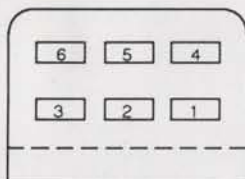
B080015.01



Wiring Face

REAR LIGHTS CHECK RELAY (C1)

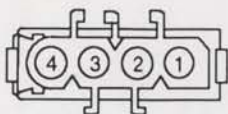
B060028 .01



Wiring Face

REAR LIGHTS CHECK RELAY (C2)

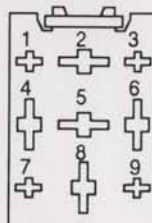
B0400002.03



Mating Face

REAR WINDOW
BLOWER

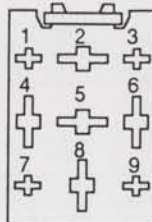
B090001.14



Mating Face

REAR WINDOW BLOWER RELAY

B090001.05



Mating Face

SEATBELT WARNING TIMER

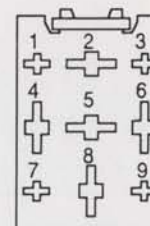
B070009.00



Mating Face

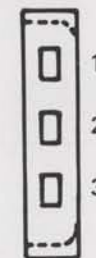
SEATBELT AND SRS WARNING MODULE
318is

B090001.00



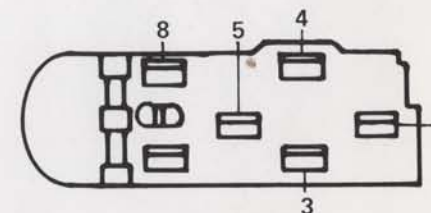
Wiring Face

START RELAY



Wiring Face

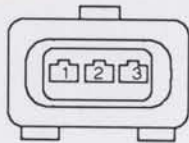
SUNROOF MOTOR (C1)



Wiring Face

SUNROOF SWITCH

B030015.07



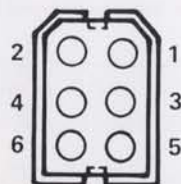
Wiring Face

THROTTLE SWITCH, POTENTIOMETER



Wiring Face

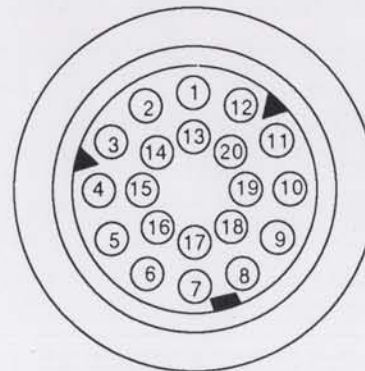
TRUNK LID LOCK MOTOR



Wiring Face

WIPER MOTOR

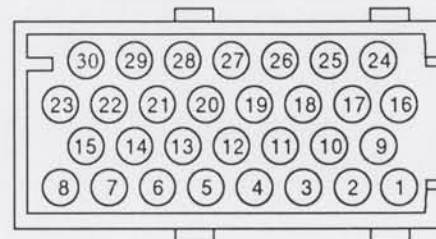
B200002.00



Wiring Face

C101

B300001.00



Wiring Face

C103

B030004.02



Mating Face

C110

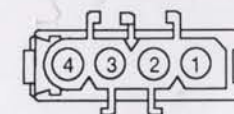
C113



Wiring Face

C114

B040002.00



Wiring Face

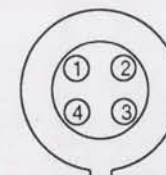
C107

C131

C136

C270

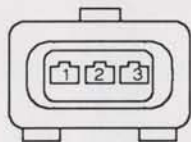
B040006.01



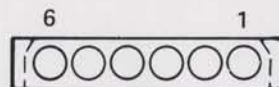
Wiring Face

C140

B030015.06

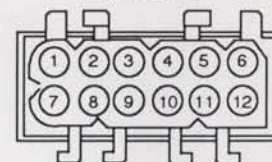


Wiring Face
C152, C153, C154



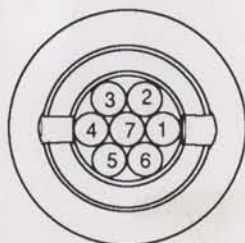
Wiring Face
C201

B120004.00

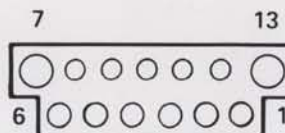


Wiring Face
C204

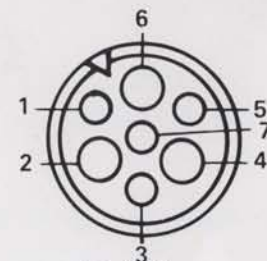
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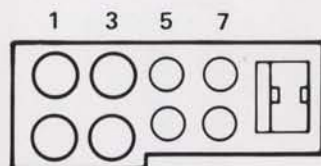
Wiring Face
C191



Wiring Face
C202



Wiring Face
C209



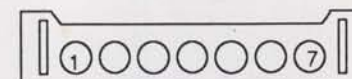
Wiring Face
C200

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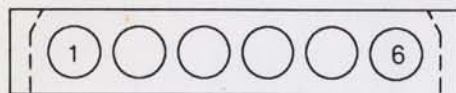
Wiring Face
C203

B070004.00



Wiring Face
C210

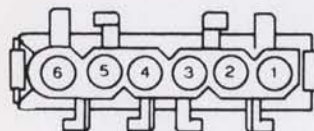
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Wiring Face

C240

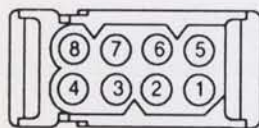
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Mating Face

C242

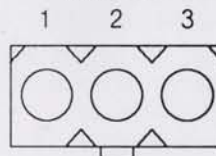
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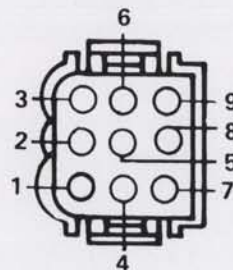
Mating Face

C243

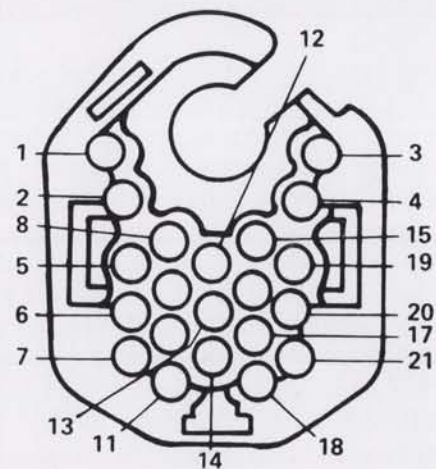
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Wiring Face

C303C304

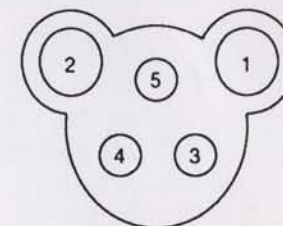
Wiring Face

C306

Wiring Face

C404C405

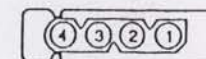
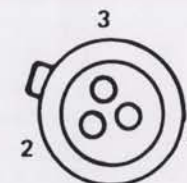
B050011.00



Wiring Face

C413

B040004.00

C421C422

Wiring Face

C503

COMPONENTS

Page-Figure

A/C In-Line Fuse	LH rear side of evaporator housing	7000- 7-6
ABS Electronic Control Unit . . .	Behind LH side of dash, above hood release	7000- 6-4
ABS Hydraulic Unit	LH front corner of engine compartment	7000- 1-5
Active Check Control Unit	Above rear view mirror	7000- 8-4
Air Bag Gas Generator	Center of steering wheel	7000- 7-5
Air Flow Meter	LH front of engine compartment, behind air cleaner .	7000- 1-1
Alternator	Lower LH front of engine	7000- 2-1
Amplifier	LH side of trunk, above LH wheel well	7000- 12-5
Auto-Charging Flashlight	Inside LH side of glove box	7000- 9-6
Automatic Transmission Range Switch	At base of gear shift lever	7000- 9-3
Auxiliary Fan	In front of radiator	7000- 2-4
Auxiliary Fan Normal Speed Blower Resistor	In front of radiator, LH side of auxiliary fan	7000- 2-4
Auxiliary Fuse	LH rear of engine compartment, RH side of power distribution box	7000- 0-1
Backup Light Switch	Top RH side of transmission	7000- 4-5
Battery	In RH rear corner of trunk	7000- 13-1
Battery Junction Block	RH rear of engine compartment, on RH bulkhead . . .	7000- 4-4
Blower Motor	Inside fresh air intake cowl	7000- 0-4
Blower Resistors	Inside fresh air intake cowl, inside blower motor housing	
Board Computer Horn	Behind LH corner of front bumper	7000- 2-2
Brake Fluid Level Switch	LH rear of engine compartment, on brake fluid reservoir	7000- 0-3
Brake Switch	Behind LH side of dash, on brake pedal support . . .	7000- 6-4
Brake Wear Sensors	On LH front and RH rear brake calipers	7000- 4-6
Central Locking Control Unit . . .	Inside LH kick panel, below LH front speaker	7000- 5-5
Chime Module	Mounted on LH dash hush panel	7000- 6-3
Clutch Switch	Behind LH side of dash, on clutch pedal support . . .	7000- 6-4
Combination Switch	Upper LH side of steering column	7000- 7-4
Compressor Clutch	Lower RH front of engine, on A/C compressor	7000- 3-3
Compressor Clutch Diode	Lower RH front of engine, on A/C compressor	7000- 3-3
Coolant Level Switch	In front of LH front wheel well, in coolant reservoir .	7000- 1-4
Coolant Temperature Sender . . .	Top front of engine, top of thermostat housing . . .	7000- 2-6
Coolant Temperature Sensor . . .	Top front of engine, top of thermostat housing . . .	7000- 2-6
Cruise Control Actuator	LH front of engine compartment	7000- 1-4
Cruise Control Unit	Behind RH side of dash, above glove box	7000- 10-1
Cylinder Identification Sensor . .	Top RH front of engine, near distributor	7000- 3-1
Diagnostic Connector	Top LH front of engine	7000- 1-3

Driver's Exterior Door Handle		
Switch	In top rear of LH front door	7000- 10-6
Dual Temperature Switch	Top RH side of radiator	7000- 2-5
Engine Speed Sensor	Lower RH front of engine	7000- 3-2
Evaporative Purge Valve	Below LH side of throttle body	7000- 0-6
Evaporator Temperature		
Regulator	On LH side of evaporator housing	7000- 8-1
Evaporator Temperature Sensor	On LH side of evaporator housing	7000- 8-1
Filter Capacitor	Lower LH front of engine, on alternator	7000- 2-1
Flasher	On upper part of steering column	7000- 7-4
Fresh/Recirculating Air Flap Door		
Motors	Behind A/C face plate, on either side of evaporator housing	7000- 8-2
Fresh/Recirculating Air Relays	Behind A/C face plate	7000- 8-3
Front Door Lock Motors	Rear part of respective front doors	7000- 10-6
Front Window Motors	Forward part of respective front doors	7000- 10-4
Fuel Injectors	Below intake manifold, at top of each cylinder	7000- 2-6
Fuel Pump Relay	Front of LH front shock tower, on bracket	7000- 1-2
Fuel Tank Sender	Below RH side of rear seat, top of fuel tank	7000- 12-3
Fusible Link A	RH rear corner of trunk, near battery	7000- 12-6
Gas Filler Lock Motor	RH side of trunk, behind RH wheel well	7000- 13-1
Glove Box Light Switch	Behind RH side of dash, above glove box	7000- 10-1
Hazard Switch	In center of dash, above digital radio	7000- 9-1
Horn Brush/Slip Ring	In upper part of steering column	7000- 7-4
Horns	Near each fog light, behind splash guard	7000- 2-2
Hot Water Cut-Out Switch	Behind center of dash, near rotary temperature control	7000- 8-3
Idle Speed Actuator	Top LH side of engine	7000- 1-3
Ignition Coil	On RH front wheel well, forward of shock tower	7000- 4-2
Ignition Key Switch	Upper part of steering column, part of ignition switch	
Ignition Switch	Top RH side of steering column	7000- 7-4
Interior Light Timer Control	Inside LH kick panel, below LH front speaker	7000- 5-5
Left Front Crash Sensor	LH side of engine compartment, in front of shock tower	7000- 1-1
Left Tank Fuel Sender	Below LH side of rear seat, in fuel tank	7000- 12-2
Loop Contact Rings	Inside steering wheel, below air bag gas generator	7000- 7-3
Main Fuel Pump	Below RH side of rear seat, in fuel tank	7000- 12-3
Main Relay	Front of LH front shock tower, on bracket	7000- 1-2
Motor Relay	Center of windshield header, above rear view mirror	7000- 8-5
Motronic Control Unit	Behind RH side of dash, above glove box	7000- 10-1
Multi-Function Clock	In center of dash, on RH side of digital radio	7000- 8-6
Oil Level Sensor	Top LH side of oil pan	7000- 1-6
Oil Pressure Switch	Lower RH front of engine, below oil filter	7000- 3-4

9000-2 COMPONENT LOCATION CHART

On-Board Computer Module . . .	Center of dash, RH side of digital radio		
On-Board Computer Relay Box . .	Behind LH side of dash, behind ABS electronic control unit	7000-	7-1
Outside Temperature Sensor . . .	Inside air intake, near LH fog light	7000-	2-3
Oxygen Sensor	Lower RH rear of engine compartment, on exhaust manifold	7000-	4-3
Oxygen Sensor Heater Relay . . .	Front of LH front shock tower, on bracket	7000-	1-2
Park Brake Switch	At base of parking brake	7000-	9-5
Power Antenna	LH side of trunk, behind LH rear wheel well	7000-	12-4
Power Distribution Box	LH rear corner of engine compartment	7000-	0-1
Power Window Circuit Breaker . .	On center console, near gear shift lever	7000-	9-4
Pulse Wheels	On respective wheel assemblies, in brake housing . .	7000-	5-1
Rear Door Lock Motors	Rear part of respective rear doors	7000-	11-6
Rear Lights Check Relay	LH side of trunk, above LH wheel well	7000-	12-5
Rear Window Motors	Forward part of respective rear doors	7000-	11-5
Refrigerant Pressure Switch . . .	On receiver dryer, behind RH headlight	7000-	3-5
RH Front Door Micro Switch . . .	In top rear of RH front door	7000-	10-5
Right Front Crash Sensor	RH side of engine compartment, in front of shock tower	7000-	4-1
Safety Switch	On center console, near gear shift lever	7000-	9-3
Seatbelt Switch	In driver's seatbelt buckle assembly	7000-	11-4
Seatbelt Warning Timer	Behind LH side of dash, on electrical bracket	7000-	6-5
Speed Detectors	On wheels, in brake housing	7000-	5-1
Speedometer Sender	On RH rear of differential	7000-	5-2
SRS Diagnostic Module	Behind LH side of dash, above ABS electronic control unit	7000-	5-6
Start Relay	Behind LH side of dash, on C302 accessory connector bracket	7000-	6-2
Starter	Lower LH rear of engine	7000-	0-5
Sunroof Motor	Center of windshield header, above rear view mirror	7000-	8-5
Throttle Switch	Below LH side of throttle body	7000-	0-6
Trunk Lid Lock Motor	On trunk lock center support	7000-	13-2
Trunk Light Switch	Top center of trunk lid	7000-	13-3
Unlock Inhibit Switch	Top rear of LH front door	7000-	10-5
Washer Fluid Level Switch	Behind RH headlight, in washer fluid reservoir	7000-	3-5
Washer Pump	Ahead of RH front wheel well, on washer fluid reservoir	7000-	3-6
Water Shut-Off Solenoid	LH side of evaporator housing	7000-	7-6
Wiper Motor	Inside LH side of fresh air intake cowl	7000-	0-4

CONNECTORS

C101 (20 pins)	Next to power distribution box, mounted on engine dash	7000- 0-3
C103 (30 pins)	Behind LH side of dash, on body electrical bracket	7000- 6-1
C104 (2 pins)	Behind LH side of dash, near C302 accessory connector	7000- 6-3
C110 (3 pins)	RH front of engine compartment	7000- 3-5
C113 (3 pins)	Behind LH headlight	7000- 1-5
C114 (8 pins)	LH rear corner of engine compartment, on power distribution box	7000- 0-2
C115 (2 pins)	LH rear corner of engine compartment, on power distribution box	7000- 0-2
C131 (4 pins)	Behind RH side of dash, above glove box	7000- 10-1
C136 (4 pins)	Behind RH side of dash, above glove box	7000- 10-1
C140 (4 pins)	RH rear of engine compartment, under tray	7000- 4-3
C142 (1 pin)	Behind LH side of dash, near steering column	7000- 6-3
C143 (1 pin)	Behind LH side of dash, near C302 accessory connector	7000- 6-5
C150 (2 pins)	Front of LH front wheel well, on bracket	7000- 1-1
C151 (2 pins)	LH side of RH front wheel well	7000- 3-6
C190 (2 pins)	Below RH side of rear seat	7000- 12-3
C191 (7 pins)	Lower LH side of engine	7000- 0-5
C200 (10 pins)	Behind LH side of dash, on steering column	7000- 6-5
C201 (6 pins)	Behind LH side of dash, on steering column	7000- 6-5
C202 (13 pins)	Behind LH side of dash, on steering column	7000- 6-5
C204 (12 pins)	Behind LH side of dash, RH side of steering column	7000- 8-2
C205 (2 pins)	Inside LH kick panel	7000- 5-5
C208 (2 pins) (Automatic)	Behind LH side of dash, LH side of steering column	
C208 (2 pins) (Manual)	Behind LH side of dash, near clutch pedal support	7000- 6-4
C209 (7 pins)	Behind LH side of dash, near brake pedal support	7000- 6-3
C210 (7 pins)	Behind LH side of dash, on steering column	7000- 6-5
C212 (2 pins)	Behind center of dash, on rear of digital radio	7000- 9-2
C213 (2 pins)	Behind center of dash, on rear of digital radio	7000- 9-1
C214 (2 pins)	Behind center of dash, on rear of digital radio	7000- 9-1
C215 (2 pins)	Behind center of dash, behind digital radio	7000- 8-6
C216 (2 pins)	Behind center of dash, on rear of digital radio	7000- 8-6
C217 (1 pin)	Behind LH side of dash, near C302 accessory connector	7000- 7-1
C218 (2 pins)	Behind center of dash, on rear of digital radio	7000- 9-2
C219 (2 pins)	LH side of trunk, above LH rear wheel well	7000- 12-4
C220 (2 pins)	Behind LH side of dash	
C221 (2 pins)	Behind RH side of dash	
C233 (1 pin)	Behind center of dash, near digital radio	7000- 8-6
C240 (6 pins)	Behind LH side of dash, above ABS Electronic Control Unit	7000- 5-6

C241 (1 pin)	Behind LH side of dash, above steering column	7000- 6-6
C243 (8 pins)	Behind center of dash, near digital radio	7000- 9-1
C244 (2 pins)	Behind center of dash, on rear of digital radio	7000- 8-6
C245 (2 pins)	Behind center of dash, on rear of digital radio	
C260 (2 pins)	Underside of steering column	7000- 7-2
C261 (2 pins)	Behind LH side of dash, near C302 accessory connector	7000- 7-1
C270 (4 pins)	Behind LH side of dash, above ABS electronic control unit	7000- 5-6
C290 (2 pins)	Behind LH side of dash, above ABS electronic control unit	7000- 5-6
C301 (2 pins)	Below center console, near gear shift lever	7000- 9-4
C302 (25 pins) Accessory Connector	Behind LH side of dash, on body electrical bracket . .	7000- 6-1
C303 (3 pins)	At base of RH "B" pillar	7000- 11-3
C304 (3 pins)	At base of LH "B" pillar	7000- 11-2
C305 (1 pin)	Behind LH side of dash, near C302 accessory connector	7000- 7-1
C306 (9 pins)	Below center console, near gear shift lever	7000- 9-3
C352 (2 pins)	Behind LH side of rear seat	7000- 12-1
C360 (2 pins)	Below RH side of rear seat	7000- 12-3
C401 (7 pins)	In LH "B" pillar	7000- 11-1
C402 (7 pins)	In RH "B" pillar	7000- 11-1
C403 (4 pins)	Behind LH side of dash, near C302 accessory connector	
C404 (21 pins)	Above RH front door jamb switch	7000- 10-3
C405 (21 pins)	Above LH front door jamb switch	7000- 5-3
C406 (1 pin)	Below RH front speaker	7000- 10-2
C407 (1 pin)	Below LH front speaker	7000- 5-4
C421 (4 pins)	Below LH front seat	7000- 11-4
C422 (4 pins)	Below RH front seat	7000- 11-4
C500 (1 pin)	Behind LH side of dash, near steering column	7000- 6-3
C503 (3 pins)	In lower rear of LH front door	7000- 10-5
C510 (1 pin)	Inside LH kick panel, above LH front speaker	7000- 5-5

GROUND

G100	RH rear corner of trunk, behind battery	7000- 13-1
G103	On RH front shock tower	7000- 4-2
G104	On inner fender, behind LH headlight	7000- 1-4
G200	Behind LH side of dash, above brake pedal	7000- 6-6
G201	Upper LH side of steering column	7000- 7-4
G300	Behind LH side of rear seat	7000- 12-1
G302	LH side of trunk, on power antenna bracket	7000- 12-4
G600	Center of windshield header, right of sunroof motor.	7000- 8-5

